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cm. longa 5.5–9.5 cm. lata, apice obtusissima vel subrotundata, basi profunde (1.5–3.5 cm.) cordata, sinu aperto lato, lobis basalibus subrotundatis, toto margine undulato-dentato, dentibus brevibus latis obtusissimis, supra sparse villosa vel in statu juvenili forsan laxe tomentosa, subtus ad venas nervosque sparsissime breviter tomentulosa vel fere glabra penninervia; folia caulina multo minora ovata, petiolo latissime alato atque vaginante, foliis supremis ad vaginas reductis 2–2.5 cm. tantum longis; inflorescentia ad capitulum singulum multicapitatum 2.5–3 cm. diam. pedunculatum reducta, bracteis extimis linearibus foliaceis usque 1.5 cm. longis; involucrum 8 mm. altum, phyllariis ca. 8 glabris oblongo-ovatis acutiusculis prope apicem albo-ciliatis arcte imbricatis; corolla glabra 6–7 mm. longa; achaenia anguste columnaria nigrescentia 4 mm. longa, pappo albo fere aequilongo.—Mexico: Very wet meadow near San Juanito, Distrito de Bocoyna, Chihuahua, alt. 2,430 meters, July 26, 1937, *Forrest Shreve* 8031 (type in Herb. Field Mus.). Memlichi, Río Mayo, Chihuahua, in transition zone among pines, alt. 2,250 meters, September, 1936, *Howard Scott Gentry* 2785; aquatic, a small colony in meadow seep.

Verbesina Gentryi Standl., sp. nov.—Herba erecta inferne ut videtur simplex 50 cm. alta et ultra, caule crasso dense scabro vel hirtello fere ad capitula alato, alis viridibus integris usque 4 mm. latis; folia opposita majuscula sessilia et longe basi in alas decurrentia, ovata vel rhombico-ovata, caulina usque 14 cm. longa et 8 cm. lata acuta vel acuminata dentata vel grosse dentata, crassa, utrinque scaberrima; capitula numerosa corymbosa, inflorescentia usque 30 cm. longa, pedunculis ultimis graciusculis exalatis brevibus dense viscido-hirtellis et scabris, capitulis campanulatis radiatis 5–6 mm. altis 7–10 mm. latis luteis; phyllaria vix ad 3 mm. longa inaequalia oblonga acuta hispidula; radii pauci lineares 5–7 mm. longi lutei; paleae disci latae apice apiculato-rotundatae glabrae.—Mexico: Guasaremos, Río Mayo, Chihuahua, in valley margins, August 23, 1936, *Howard Scott Gentry* 2416 (type in Herb. Field Mus.).

The heads are in young flower, and it is impossible to determine the nature of the achenes. The collector describes the plant as a tall, slender herb with orange heads. Its relationship is with *Verbesina pterocaula* DC., of southern Mexico, which differs conspicuously in its larger heads as well as in several other respects.

STUDIES OF AMERICAN PLANTS—X

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

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STUDIES OF AMERICAN PLANTS—X

Paul C. Standley

The following pages are devoted chiefly to descriptions of new plants, principally from extensive tropical American collections received for determination during the past few years. Series that have proved particularly rich in additions to the known floras of Mexico and Central America are those of Mr. E. Matuda in Chiapas, especially on the Volcano of Tacaná; those of Mrs. M. E. Davidson in the mountains of Chiriquí, Panama; and those from the high and isolated peak of Cerro Potosí, in the State of Nuevo León, Mexico, collected by Dr. C. H. Mueller and by Mr. Richard A. Schneider. It is perhaps worthy of note that the most recent collections obtained in Costa Rica by Mr. Austin Smith, particularly those of the San Carlos region, have continued to yield numerous additions to the published catalogue of the Costa Rican flora.

Among the rather numerous new Rubiaceae here published, probably most important are those gathered by Dr. A. Ducke during his latest exploration of the Amazon Valley. In this instance, as in case of the other series mentioned, further new species still await description and publication.

CYCLANTHACEAE

Carludovica Killipii Standl., sp. nov.—Epiphytica, caudice 3 cm. crasso dense foliato brevi, vaginis dense imbricatis, internodiis brevissimis; folia magna longipetiolata coriacea, petiolo crasso ca. 28 cm. longo, vaginis ca. 14 cm. longis basi fere 6 cm. latis; lamina profunde bifida ca. 38 cm. longa, segmentis linearibus 3.5 cm. latis longe attenuato-acuminatis trinerviis; pedunculus 10 cm. longus crassiusculus, nodis 2–3; spadix anguste oblongus 4.5 cm. longus 1.3 cm. latus apice rotundatus, densissime multiflorus.—Colombia: In mangrove swamp, Buenaventura Bay, Dept. El Valle, April 13, 1939, *E. P. Killip* 34975 (type in Herb. Field Mus.).

Two inflorescences are present, one much weathered, the other somewhat the worse for excessive moisture while the specimen was being dried, so that floral details can not be determined readily. A distinct species appears to be represented, and I have been unable to associate it with any described one. The collector states that the

leaves, which are conspicuously distichous and apparently numerous, form large, fan-like clusters. The habitat reported is unusual for plants of this genus.

ARACEAE

Anthurium Allenii Standl., sp. nov.—Epiphytica, caudiculo brevi crasso, internodiis brevissimis; petiolus subgracilis 20–26 cm. longus 10–14 mm. infra apicem geniculatus, nodo non incrassato; lamina oblongo-lanceolata prope basin paullo latior in sicco subcoriacea utrinque fusco-punctata, 30–40 cm. longa 6.5–10.5 cm. lata, acuminata et subito cuspidata, basi obtusa vel breviter cuneata, costa gracili utrinque prominente, nervis lateralibus primariis numerosis gracillimis prominulis secondariis vix crassioribus angulo semirecto adscendentibus ca. 7 mm. a margine in nervum distinctum gracillimum collectivum conjunctis; pedunculi graciles 18–35 cm. longi petiolis longiores vel breviores; spatha oblongo-lanceolata 5 cm. longa ca. 1 cm. lata apiculata; spadix breviter crasse stipitatus cylindricus vel fere caudiformis, ad anthesin sursum paullo attenuatus, 9 cm. longus 5 mm. crassus, in statu fructifero 14 cm. longus et fere 1 cm. crassus.—Panama: North rim of El Valle, Prov. Coclé, June, 1939, *P. H. Allen & A. H. G. Alston* 1854 (type in Herb. Mo. Bot. Gard.); May, 1939, *Allen* 1819.

This evidently is closely related to *A. chiriquense*, described here, but that has epunctate leaves which are about equally narrowed to each end, rather than punctate and broadest near the base, as in *A. Allenii*.

Anthurium Baileyi Standl., sp. nov.—Planta majuscula terrestris, caudice brevi vel fere nullo ca. 1.5 cm. crasso, internodiis brevissimis; cataphylla brevia persistentia subcoriacea; petiolus 50–60 cm. longus gracilis prope basin 7 mm. crassus teres in sicco brunnescens; lamina deltoideo-ovato-cordata in sicco tenuis atque fere membranacea ca. 44 cm. longa atque 32 cm. lata, subito breviterque acuminata, supra viridis et saepius dense nigro-punctata, subtus aliquanto pallidior, lobis posticis magnis rotundatis vel latere exteriore obtuso-angulatis, sinu lato aperto triangulari ca. 12 cm. longo, nervis primariis costalibus utroque latere ca. 7 nervum tenuem irregularem collectivum prope marginem formantibus, nervis basalibus 5; pedunculus ca. 45 cm. longus gracilis teres brunnescens; spatha ut videtur viridis 12.5 cm. longa basi 1.5 cm. lata lineari-lanceolata longissime attenuata spadice paullo brevior; spadix 1.5 cm. longe stipitatus 12 cm. longus basi 7–8 mm. crassus sursum paullo attenuatus obtusus.—Panama: Barro Colorado

Island, Canal Zone, June 15, 1931, *L. H. & Ethel Zoe Bailey* 196 (type in Herb. Field Mus.).

The type specimen is the only one seen with an inflorescence, but here probably belong the following leaf specimens, all except one from the vicinity of the Canal Zone: Barro Colorado Island, *Standley* 31294, 41104. Hills north of Frijoles, *Standley* 27440. Río Tapia, Prov. Panama, *Standley* 26159. Río Tecumen, Prov. Panama, *Standley* 26739. Puerto Obaldía, San Blas Coast, *Pittier* 4277.

The material listed above is rather puzzling. Offhand the leaf specimens appear to represent a single species, and probably they do, but there is considerable possibility also that two distinct species if not two genera are represented. The matter can be decided only when a larger number of flower-bearing specimens is available for study. In the type specimen the leaves are glabrous beneath and the petioles unarmed, but in several of the sterile specimens the leaves are conspicuously and densely puberulent beneath, at least along the nerves, and the petioles are decidedly aculeolate.

Anthurium chiapasense Standl., sp. nov.—Epiphytica, caudiculo brevi crasso, internodiis brevissimis, cataphyllis ferrugineis in fibras mox solutis; petiolus crassiusculus subteres 25 cm. longus fere 2 cm. infra apicem nodosus, nodo vix incrassato; lamina in sicco subcoriacea subfusca elongato-oblongo-sagittata ca. 30 cm. longa et prope medium 6.5–7.5 cm. lata, apice longe sensim attenuato-acuminata, basi profunde cordata, lobis posticis oblongis rotundato-obtusis retrorsis vel paullo extrorsis, sinu ca. 7 cm. alto angusto oblongo aperto, costa gracili utrinque prominente, nervis lateralibus primariis utroque latere supra basin ca. 9 angulo semirecto adscendentibus utrinque prominentibus secundariis paullo crassioribus remote a margine in nervum distinctum collectivum plus minusve irregularem conjunctis, lamina basi 5-nervia; pedunculus gracilis 30 cm. longus; spatha ut videtur oblonga atque ca. 3 cm. longa; spadix crasse 4 mm. longe stipitatus anguste cylindricus 6 cm. longus prope basin 5 mm. crassus, sursum paullo attenuatus obtusus.—Mexico: Mt. Ovando, Chiapas, April 4, 1936, *E. Matuda* 1562 (type in herb. Mo. Bot. Gard.; photograph in Herb. Field Mus.).

Anthurium chiriquense Standl., sp. nov.—Epiphytica, caudiculo brevi crasso, internodiis brevissimis; petiolus subteres laminam fere aequans 20–30 cm. longus crassiusculus ca. 8 mm. infra apicem geniculatus, nodo incrassato; lamina anguste elliptico-oblonga vulgo 29–35 cm. longa atque 7–10 cm. lata in sicco subcoriacea epunctata, apice obtusa atque subito cuspidato-acuminata, basi

subobtusa vel late cuneata, costa gracili utrinque prominente, nervis lateralibus primariis numerosis vix secundariis crassioribus angulo semirecto adscendentibus, ca. 5–9 mm. a margine in nervum distinctum collectivum conjunctis; pedunculi crassi ca. 45 cm. longi vulgo fere duplo petiolis longiores; spatha purpurascens oblongo-lanceolata ca. 6.5 cm. longa atque 1 cm. lata acuminata; spadix purpurascens graciliter cylindricus obtusus, interdum sursum paullo attenuatus, 12–25 cm. longus, ca. 7 mm. prope basin crassus.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, *Mrs. M. E. Davidson* 283 (type in Herb. Field Mus.), 312.

Related to *A. turrialbense* Engler, of Panama and Costa Rica, which differs in having relatively much narrower, punctate leaves.

Anthurium garagaranum Standl., sp. nov.—Planta grandis ut videtur epiphytica, caudice brevi crasso; petiolus crassus 40–60 cm. longus anguste sulcatus subteres ca. 1.5 cm. infra apicem geniculatus, nodo 7–8 mm. crasso; lamina profunde trilobata basi subtruncata, lobis lateralibus incurvo-falcatis 23–26 cm. longis 10–11 cm. latis obtusis vel subacutis, latere exteriore rotundatis, interiore fere rectis, costa ca. 4 cm. supra basin in nervos primarios 4 desinente, nervis crassis prominentibus fere ad apicem lobi productis, segmento medio ca. 36 cm. longo et 9 cm. lato vel ultra, longe angusteque acuminato, costa subtus crassa prominente, nervis primariis costalibus numerosis crassiusculis prominentibus angulo semirecto vel latiore divergentibus, prope marginem in nervum collectivum conjunctis; pedunculus ca. 25 cm. longus teres 5–7 mm. crassus; spatha lanceolato-linearis ca. 17 cm. longa prope basin 1.5 cm. lata; spadix gracilis caudiformis sessilis vel subsessilis ca. 17 cm. longus atque prope basin 9 mm. crassus, sursum paullo attenuatus.—Panama: Foothills of Garagará, Darién, at 30–500 meters, *Pittier* 5601 (type in U. S. Nat. Herb.).

The type material was determined by Krause as *Philodendron tripartitum* (Jacq.) Schott, a rather common Central American species which this plant does not greatly resemble in leaf form. It appears to be related closely to *Anthurium tripartitum* Engler, described from Barbacoas, Colombia. Engler's description agrees in most respects with the Panama plant, but there are enough discrepancies to make it evident that the latter is a distinct new species.

Anthurium gracilens Standl., sp. nov.—Epiphytica vel terrestris, caudice gracili ca. 4 mm. crasso brunnescente, internodiis

elongatis; cataphylla lineari-attenuata brunnea decidua; petiolus gracillimus lamina paullo brevior 10–22 cm. longus 1–1.5 cm. infra apicem geniculatus, nodo gracili; lamina in sicco membranacea et vulgo laete viridis, subtus paullo pallidior, epunctata, ovato-elliptica ad ovato-oblonga 17–21 cm. longa 6.5–8 cm. lata cuspidato-acuminata, vix basin versus angustata, basi late rotundata atque emarginata vel subcordata, rare truncata, e basi 5-nervia, nervis primariis utroque latere ca. 9 angulo semirecto vel latiore adscendentibus tenerrimis, prope marginem in nervum collectivum tenerum fere regularem conjunctis; pedunculus ca. 11 cm. longus gracillimus; spatha lanceolato-oblonga viridis 1 cm. lata vel ultra; spadix graciliter 1 cm. longe stipitatus cylindricus obtusus, ca. 4.5 cm. longus et 5–6 mm. crassus.—Panama: Río Chiriquí Viejo Valley, Chiriquí, July 13, 1939, *Peggy White* 160 (type in Herb. Field Mus.; duplicate in Herb. Mo. Bot. Gard.). Bajo Mona, Río Caldera, Chiriquí, 1,500–2,000 meters, *Woodson, Allen & Seibert* 1026. Vicinity of Cerro Punta, Chiriquí, *P. H. Allen* 1531.

Somewhat similar to *A. pallens* Schott, of the same general region, which differs in its much narrower leaves, obtuse or rounded and not at all emarginate or subcordate at the base.

Anthurium silvigaudens Standl. & Steyerm., sp. nov.—Terrestris ca. metralis, caudice brevi ca. 1 cm. crasso cataphyllis magnis 8–9 cm. longis diutius persistentibus fibrosis dense obtectis, internodiis abbreviatis; petiolus crassiusculus 27 cm. longus evaginatus apice 1 cm. longe geniculatus; lamina ovato-cordata in sicco tenuis et fere membranacea, ca. 37 cm. longa atque 22 cm. lata, cuspidato-acuminata, basi profunde (ca. 11 cm.) cordata, lobis posticis late rotundatis intus protractis, sinu clauso angusto, e basi 7-nervia, nervo infimo intra lobum posticum nervos secundarios ca. 8 emittente, nervis primariis costalibus utroque latere ca. 8 ad vel fere ad marginem prolongatis; pedunculi breves 7 cm. tantum longi; spatha pallide viridis ovata vel lanceolato-ovata ca. 9.5 cm. longa atque 4–5 cm. lata longiacuminata, basi late amplexicaulis et cordata; spadix subsessilis (perfectus non visus) purpurascenti-viridis 1 cm. crassus.—Guatemala: Terrestrial in wet forest near Tactic, Dept. Alta Verapaz, alt. about 1,500 meters, April 5, 1939, *Paul C. Standley* 70505 (type in Herb. Field Mus.).

In most respects this is similar to *A. fraternum* Schott, also Guatemalan, but in that the leaves have 5 rather than 7 basal nerves, and there are other less important differences.

MARANTACEAE

Calathea ursina Standl., sp. nov.—Herba perennis acaulis ca. 35 cm. alta; folia 3–7 erecta, petiolo 13–18 cm. longo gracillimo ubique dense pilis fusco-brunneis patentibus longihirsuto fere 1 cm. infra apicem geniculato, nodo non incrassato; lamina membranacea elliptico-oblonga vel lanceolato-oblonga 11–17 cm. longa 4–5 cm. lata longe attenuato-acuminata, basi acuta, utrinque sat dense pilis longis plerumque patentibus hirsuta; pedunculus ca. 9 cm. longus dense longihirsutus; inflorescentia condensata ca. 5 cm. longa atque 3 cm. lata, bracteis luteis paucis tenuibus sublaxis omnibus pilis longis patentibus brunneis hirsutis, exterioribus late ovatis imbricatis 1.5–2 cm. longis, interioribus solemniter elongatis elevato-venosis usque 3 cm. longis acuminatis erectis.—Peru: On rising ground, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, February 20, 1935, *José M. Schunke* 294 (type in Herb. Field Mus.).

Local name, Bijahuillo. "Plants solitary."

MORACEAE

Brosimum Mello-Barretoi Standl., sp. nov.—Arbor 12-metralis ut videtur dense ramulosa, ramulis teretibus brunnescenti-ochraceis glabris, internodiis brevibus; stipulae attenuato-acuminatae 1 cm. longae minutissime puberulae vel fere glabrae; folia modica brevissime petiolata coriacea, petiolo crassiusculo usque 1 cm. longo glabro; lamina anguste oblonga vel lanceolato-oblonga 9–15 cm. longa 3–5 cm. lata subito breviterque acuminata, acumine ipso obtuso, basi paullo inaequali acuta ad late obtusa et saepe breviter contracta, glabra, supra in sicco brunnescens sublucida, costa venisque conspicuis sed vix elevatis, subtus paullo pallidior, costa crassiuscula fere plana, nervis lateralibus utroque latere ca. 15 angulo lato saepe fere recto abeuntibus fere rectis tenerrimis planis prope marginem arcuato-junctis, venulis arcte reticulatis sed non elevatis; capitulum fructiferum globosum breviter pedunculatum sordide brunneum 12 mm. diam.—Brazil: Matta, Fazenda da Cachoeira, Municipio Tombos, Minas Geraes, July 18, 1935, *H. Mello Barreto* 1658 (Jard. Bot. Bello Horizonte 16566; type in Herb. Field Mus.).

Local name, Bainha de espada. The material, although ample, is not in satisfactory state for study, as regards the inflorescences, but it seems properly referable to *Brosimum*, in which genus I have been unable to find a published name for it. It is a pleasure to name this tree for its collector, who has made one of the largest and best

prepared series of specimens ever obtained by any botanical worker in Brazil.

Cecropia Garciae Standl., sp. nov.—Arbor 12-metralis; petiolus crassus 42 cm. longus et ultra subteres dense laxeque albo-lanatus; lamina magna crasse herbacea digitatim fere ad basin ca. 20-lobata, segmentis anguste oblongo-oblanceolatis ca. 45 cm. longis et 12 cm. latis, apice obtusis vel subrotundatis atque subito cuspidato-acuminatis, infra tertiam partem sensim ad basin angustatis integris, supra viridibus glabris, subtus albidis ubique dense tomento minuto arcte adpresso indutis, nervis lateralibus numerosis angulo semirecto vel paullo latiore adscendentibus rectis teneris prominentibus fere in marginem desinentibus apice abrupte sursum curvatis; inflorescentia feminea crasse 3 cm. longe pedunculata, spicis 15 vel ultra arcte sessilibus 11–14 cm. longis 8 mm. crassis apice obtusissimis.—Colombia: In edge of forest along coast, east side of Gorgona Island, Dept. Nariño, February 11, 1939, *E. P. Killip & Hernando García* 33221 (type in Herb. Field Mus.).

Noteworthy for the very numerous leaf segments, bright green above and covered beneath with a dense but minute and closely appressed tomentum.

Coussapoa Duquei Standl., sp. nov.—Arbor 30-metralis, trunco 1 m. diam., ramulis crassis fusco-ferrugineis in sicco rimosis sparse praesertim prope nodos hirto-pilosis, internodiis brevibus; folia modica longipetiolata crasse coriacea, petiolo crassiusculo 5–10 cm. longo hirtello vel glabrato; lamina late ovata vel elliptico-ovata 15–18 cm. longa 10–11 cm. lata obtusissima, basi rotundata et brevissime subpeltata, supra sublucida glabra, nervis manifestis sed non elevatis, subtus brunnescens ubique sat dense laxeque tomentosa, costa gracili elevata, nervis primariis lateralibus utroque latere ca. 13 gracilibus prominentibus rectis obliquis angulo semirecto adscendentibus in marginem desinentibus, nervis alteris fere aequicrassis parallelis interpositis, margine leviter undulato-crenato; capitula (in statu nimis juvenili tantum visa) in cymas breves parvas axillares petiolis breviores disposita pedunculata ut visa 5 mm. tantum diam., ramis pedunculisque dense molliter brunneo-pilosis.—Colombia: Palestina, Dept. Caldas, alt. 1,500 meters, *J. M. Duque* 1767 (type in Herb. Field Mus.).

The present species is similar to *C. Lawrancei* Standl., likewise Colombian, but in that the petioles and branches are copiously hirsute with long hairs.

Coussapoa incomitata Standl., sp. nov.—Arbor 20-metralis in statu juvenili epiphytica, ramulis teretibus crassis fuscis in sicco striatis primo tomentulosis, serius glabratis, internodiis brevissimis; stipulae parvae late ovatae subacuminatae 5 mm. tantum longae extus laxe pilis pallidis sericeae; folia parva petiolata crasse coriacea, petiolo gracili 2.5–3 cm. longo laxe araneoso-tomentoso, serius glabrato; lamina oblongo-obovata vel subcuneato-obovata 6–8 cm. longa 3–4.5 cm. lata apice rotundata, basin versus saepissime paullo angustata, basi ipsa anguste rotundata et vulgo breviter emarginata, supra glabra vel tantum ad costam sparse tomentulosa, costa nervisque subimpressis, sublucida, subtus grisea vel brunnescens, primo dense pilis laxis albis araneoso-tomentosa, glabrescens, costa gracili prominente, nervis lateralibus utroque latere ca. 6 obliquis angulo semirecto adscendentibus subarcuatis gracilibus elevatis, venis transversis ultimisque laxe reticulatis prominentibus; pedunculi feminei ad nodos aggregati simplices crassi sordido-puberuli vel glabrati, capitulis subglobosis densissime multifloris 6–7 mm. diam., perianthio in statu fructifero fere 2 mm. longo obovoideo apice rotundato sparse vel dense puberulo.—Brazil: Matta, Fazenda da Cachoeira, Municipio Tombos, Minas Geraes, July 29, 1935, *H. Mello Barreto* 1795 (Jard. Bot. Bello Horizonte 16810; type in Herb. Field Mus.).

An apparently well marked species, noteworthy for the small leaves and small, clustered fruiting heads. The local name is reported as Mata pau vermelho.

Coussapoa Schunkei Standl., sp. nov.—Arbor 15-metralis, trunco ca. 50 cm. diam., ramulis crassis sordide ochraceis vel brunnescentibus dense minute tomentellis atque ad nodos longipilosis, internodiis brevissimis; stipulae 7 cm. longae vel ultra longiattenuatae dense puberulae et pilis longis pallidis subadpressis indutae; folia modica petiolata coriacea, petiolo crassiusculo 4–5.5 cm. longo dense minute puberulo et sparse longipiloso; lamina deltoideo-ovata 12–16 cm. longa 8–10.5 cm. lata apicem obtusum versus sensim angustata, basi late rotundata et truncata vel subemarginata, supra in sicco fusco-brunnescens glabra, nervis manifestis sed vix elevatis, subtus pallide brunnescens, tomento minuto brunnescente densissime obtecta, primo sparse laxe praesertim ad nervos costamque araneoso-tomentosa, costa gracili elevata, nervis lateralibus utroque latere ca. 10 rectis angulo semirecto adscendentibus gracilibus in marginem desinentibus, basi 5-nervia, venis obscuris, margine integro vel subundulato; inflorescentiae masculae laxe cymosae ca.

8 cm. longae axillares fasciculatae, pedunculo gracili usque 4 cm. longo, ramis late patentibus dense minuteque puberulis atque sparse longipilosis, capitulis paucis globosis 2–3 mm. tantum diam. 2–4 mm. longe pedunculatis.—Peru: On river bank, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, January 27, 1935, *José M. Schunke* 130 (type in Herb. Field Mus.).

Local name, Uvilla. "Solitary; flowers cream; fruit brown, edible." Among Peruvian species, this is most closely related to *C. vellerea* Klotzsch, whose type was collected at Macora, Huánuco, by Ruiz and Pavón.

Pourouma chocoana Standl., sp. nov.—Arbor 8–10-metralis; folia magna longipetiolata subcoriacea, petiolo crasso 17 cm. longo dense scabro atque hispido-hirsuto; lamina ca. 25 cm. longa et 28 cm. lata basi profunde (3.5 cm.) aperte cordata, ca. ad medium trilobata, lobo medio late elliptico, costa media utroque latere nervos primarios ca. 12 rectos emittente, lobis lateralibus late ovatis breviter cuspidato-acuminatis, basi late rotundatis, lamina supra scabra et tactu asperrima in sicco fusco-brunnescente, subtus ubique tomento arcte adpresso albo dense obtecta; inflorescentia feminea cymosa multiramosa ca. 6 cm. longa atque 9 cm. lata multiflora 8 cm. longe pedunculata, pedunculo ramisque dense tomento adpresso sordido-brunneo indutis, pedicellis fructiferis crassissimis usque 5 mm. longis; fructus maturus elliptico-ovoideus 1.5 cm. longus 1 cm. latus paullo compressus obtusus dense sordideque brunneo-tomentellus. —Colombia: Dense forest near junction of Río Condoto and Río San Juan, Intendencia El Chocó, alt. 100–150 meters, April 20, 1939, *E. P. Killip* 35095 (type in Herb. Field Mus.).

POLYGONACEAE

Coccoloba caurana Standl., sp. nov.—Arbor 15-metralis, trunco 60 cm. et ultra diam., coma angusta, ramis erectis, cortice brunnescente, ramulis crassis dense foliatis ochreis magnis 2 cm. longis et ultra dense obtectis glabris; folia inter maxima breviter petiolata crasse coriacea, petiolo crasso glabro 2.5–4 cm. longo; lamina glabra oblonga 21–40 cm. longa 9–16 cm. lata apice obtusa et subito breviterque acuminato-contracta, basi subrotundata vel obtuse angustata, in sicco brunnescens, costa nervisque supra subimpressis, subtus paullo pallidior, costa gracili elevata, nervis lateralibus utroque latere ca. 11 prominentibus obliquis angulo acuto adscendentibus prope marginem arcuato-conjunctis, venis inconspicuis laxe reticulatis; flores dense racemosi, racemis ante anthesin

3.5 cm. longis axillaribus et dense fasciculatis, rhachi dense minute sordido-puberula, pedicellis brevissimis; perianthium glabrum ca. 3 mm. longum, segmentis ovalibus apice rotundatis; stamina exserta.—Venezuela: In forest on steep slope above the playa of Salto de Para, Medio Caura, State of Bolívar, alt. 200 meters, in 1939, *Llewelyn Williams* 11366 (type in Herb. Field Mus.).

Local name Arahueke. "Trunk branched from the base; flowers red, produced in March; fruits small and round." No fruits are present with the type specimen. The species is noteworthy for its exceptionally large leaves, almost perfectly oblong in outline.

Ruprechtia Tangarana Standl., sp. nov.—Frutex vel arbor 4–6-metralis, trunco 4–6 cm. diam., ut videtur dense ramosa, ramis crassis fuscis vel sordido-ochraceis lenticellatis, internodiis brevibus vel aliquanto elongatis glabris; folia breviter petiolata subcoriacea in sicco fusca, petiolo crassiusculo 7–10 mm. longo glabro; lamina lanceolato-oblonga vel elliptico-oblonga vulgo 6–21 cm. longa et 2.5–7.5 cm. lata, acuta usque longiacuminata, basi acuta vel subobtusa, lucida glabra, nervis venisque supra prominulis, costa gracili subtus elevata, nervis lateralibus utroque latere ca. 12 obliquis angulo semirecto adscendentibus irregularibus teneris prominentibus, venis prominulis arcte reticulatis; flores masculi graciliter breviter pedicellati parvi racemosi, racemis dense multifloris in axillis vel ad nodos defoliatos solitariis vel fasciculatis plerumque 2.5–4 cm. longis, floribus glabris, pedicellis filiformibus glabris ochreolis vix longioribus, staminibus exsertis; flores feminei in racemos breves densissimos multifloros sessiles usque 3 cm. longos dispositi, pedicellis brevissimis; calyx fructifer 1 cm. longus obtuse trigonus utrinque sparse minute sericeus, segmentis exterioribus ca. 4 mm. latis obovato-oblongis apice obtusis vel anguste rotundatis; fructus acute trigonus 6 mm. longus lucidus brunneus.—Peru: On river bank, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, January 25, 1935, *José M. Schunke* 115 (in fruit; type in Herb. Field Mus.); February 15, 1935, *Schunke* 255.

Local name Tangarana blanca. "Flowers white." Only two other species of *Ruprechtia* have been reported from Peru, and neither of these from Loreto. *R. Tangarana* is more closely related to *R. apetala* Wedd., which has shorter leaves, soft-pilose beneath, elongate staminate racemes, and a fruiting perianth 2.5 cm. long.

CARYOPHYLLACEAE

Stellaria limitanea Standl., sp. nov.—Herba ut videtur procumbens laxe ramosa, caulibus 30 cm. longis et ultra gracilibus

nodosis fragilibus sat dense glanduloso-villosis, internodiis saepe foliis longioribus; folia petiolata herbacea parva, petiolo gracili glanduloso-villoso 2–4 mm. longo; lamina ovato-deltoidea 8–14 mm. longa 6–7 mm. lata (in statu bene evoluto probabiliter multo major) sensim longiacuminata, basi truncata vel breviter cordata, utrinque dense pilis longis viscidis villosa; pedicelli axillares solitarii 9–18 mm. longi glanduloso-villosi; sepala oblongo-ovata 5–6 mm. longa sensim acuminata tenuiter nervata hyalina viscido-villosula; petala non visa, nulla(?); capsula late ovoidea obtusa sepalis fere aequilonga lucida, stylis 3; semina suborbicularia 1 mm. lata ferruginea minute obtuseque tuberculata.—Mexico: Volcán de Tacaná, State of Chiapas, alt. 1,400 meters, March, 1939, *E. Matuda* 2775 (type in Herb. Field Mus.).

A relative of *S. nemorum* L., a widespread plant of Mexico and Central America, this is notable for its large flowers and unusually abundant and viscid pubescence.

MONIMIACEAE

Siparuna macra Standl., sp. nov.—Arbuscula gracilis 4-metralis, ramulis gracilibus teretibus dense minute stellato-puberulis, internodiis bene elongatis; folia parva petiolata membranacea, petiolo gracili 1–2 cm. longo minute stellato-puberulo; lamina oblongo-oblanceolata 5–11 cm. longa 1.5–3 cm. lata subito caudato-acuminata, basin versus sensim attenuata, remote inaequaliter denticulata, supra in sicco fusco-viridis sparse pilis minutis sessilibus stellatis conspersa tactu asperula, subtus fere concolor densius pilis similibus stellato-puberula, costa gracili prominente, nervis lateralibus utroque latere ca. 8 arcuatis angulo lato adscendentibus; inflorescentiae axillares e basi ramosae ca. 3 cm. longae, ramis simplicibus vel semel dichotomis gracilibus remote paucifloris sparse minuteque stellato-puberulis aliquanto scorpioideis, pedicellis usque 2.5 mm. longis; receptaculum 2–2.5 cm. latum et aequilongum sparse inferne stellato-puberulum vel fere glabrum, apice glabrum.—Costa Rica: Villa Quesada, Cantón de San Carlos, Prov. Alajuela, alt. 725 meters, edge of Caribbean rain forest, March 29, 1939, *Austin Smith* F1828 (type in Herb. Field Mus.).

"Stems arching, the bark light brown; leaves dark green, faintly shining above, paler beneath; flowers pale yellow." Among Costa Rican species this is simple of recognition because of the small and relatively narrow leaves, the very sparse and minute pubescence of the leaves, and the small receptacles.

CRUCIFERAE

Thlaspi mexicanum Standl., sp. nov.—Herba perennis caespitosa 4–10 cm. alta ubique glabra, caulibus erectis e radice incrassata pluribus; folia basalia parva longipetiolata, petiolo crassiusculo; lamina ovata, rhombico-ovata vel oblongo-elliptica vulgo 6–9 mm. longa et 3–5 mm. lata, apice obtusa vel anguste rotundata basi cuneata, integra vel remote undulato-dentata; folia caulina 5–9 mm. longa lanceolato-oblonga vel oblongo-ovata obtusissima, basi profunde cordata et amplexicaulia pallida integra; racemi pauci- vel multiflori sublaxi usque 2 cm. longi, pedicellis rectangule patentibus crassiusculis 3–4 mm. longis; sepala purpurascentia 1.5 mm. longa ovali-oblonga apice rotundata; petala alba angusta 2–2.5 mm. longa; siliculae cuneato-obovatae 5–6 mm. longae 4 mm. latae apice profunde emarginatae basi cuneatae sessiles angustissime supra medium alatae; stylus brevis alas terminales siliculae vix aequans.—Mexico: State of Nuevo León, abundant on meadows above timber line, peak of Cerro Potosí, Municipio de Galeana, July 21, 1935, *C. H. Mueller* 2244 (type in Herb. Field Mus.). Sparse in meadow below timber line, peak of Cerro Potosí, *Mueller* 2248.

In Payson's account of the genus *Thlaspi* (Univ. Wyo. Publ. Bot. 1: 145. 1926), this would fall, in his key, under *T. parviflorum* A. Nels., a species of Wyoming, which has decidedly narrower pods, obtuse or truncate at the apex. I have seen no other Mexican material of the genus, although some of the species might be expected to occur in the mountains of Chihuahua and Sonora.

ROSACEAE

Potentilla Knoblochii Standl., sp. nov.—Herba perennis humilis subacaulis; folia digitata pauca vel numerosa ca. 6 cm. longa, petiolis 2–5 cm. longis pilis longis albidis patentibus vel adscendentibus sat dense pilosis, alte lateque vaginatis; foliola plerumque 5 sessilia anguste oblonga vel oblanceolato-oblonga vulgo 1–2.5 cm. longa et 4–7 mm. lata, apice obtusa vel anguste rotundata et brevissime obtuse tridentata, basin subobtusam versus paullo angustata, supra griseo-viridia pilis longis adpresso-pilosa, subtus albida dense adpresso-tomentosa et pilis longis adpresso-pilosa vel sericea, supra partem tertiam basalem remote breviterque adpresso-serrata; pedunculi vix folia aequantes, interdum breviores, 1–3-flori, foliis 1–2 reductissimis onusti, pilis longis patulis pilosi; calyx dense pilis longis patulis pilosus fere 5 mm. longus, sepalis oblongo-ovatis acutis, bracteolis conformibus paullo brevioribus vel fere aequilongis;

petala ut videtur pallide lutea 5 mm. longa apice late rotundata vel subemarginata.—Mexico: Mojarachic, Chihuahua, May 4, 1938, *I. W. Knobloch* 5104 (type in Herb. Field Mus.).

Prunus Lundelliana Standl., sp. nov.—Arbor omnino glabra, ramulis gracilibus ferrugineis vel cinereo-brunnescentibus lenticellatis rimosis; folia petiolata subcoriacea, petiolo 1–1.5 cm. longo; lamina lanceolato-oblonga vel rarius lanceolata 7–10 cm. longa 2.5-4 cm. lata longiacuminata, acumine obtuso, basi acuta vel subacuta, supra lucida, in sicco fusco-brunnescens, subtus brunnescens glandulis 3–4 valde remote a basi positis orbicularibus onusta, integra; racemi axillares vel e nodis defoliatis nascentes laxe pauci- vel multiflori breviter pedunculati 3–5 cm. longi, pedicellis gracilibus 4–9 mm. longis; cupula calycis late campanulata fere 3 mm. lata et aequilonga basi obtusa, sepalis brevissimis late rotundatis; petala lata alba vix 2 mm. longa; stamina longiexserta; stylus crassiusculus 2.5 mm. longus.—Mexico: Hacienda Siltepec, State of Chiapas, January, 1938, *E. Matuda* 1906 (type in Herb. Field Mus.). Santa Rita, Mapastepec, Chiapas, January, 1938, *Matuda* 2016.

In most respects this agrees well with the description of *Prunus tetradenia* Koehne, of Veracruz. In that, however, two of the leaf glands are inserted near the base of the blade, rather than far remote from it, and the leaves are described as substantially larger than in *P. Lundelliana*.

LEGUMINOSAE

Acacia Gentlei Standl., sp. nov.—Rami crassi teretes fusco-ferruginei dense elongato-lenticellati minute puberuli vel glabrati; spinae binatae lucidissimae 4–4.5 cm. longae 5 mm. crassae teretes, apice anguste attenuatae, glabrae curvae; folia breviter petiolata, petiolo ca. 12 mm. longo infra apicem glandula elongata paullo elevata instructo dense minute puberulo, rhachi brevi dense puberula inter paria pinnarum elongato-glandulosa; pinnae 3-jugae 4–6 cm. longae, rhachi dense puberula vel pilosula; foliola plerumque 9–18-juga oblonga 8–13 mm. longa 3–5 mm. lata apice obtusissima mutica, basi solemniter obliqua rotundata, lucida glabra vel glabrata, margine tantum minutissime ciliolato, e basi palmatinervia, costa paullo excentrica utroque latere nervos paucos emittente, nervis venulisque utrinque prominulis vel prominentibus; flores spicati, spicis ad nodos solitariis pedunculatis ut videtur ca. 3 cm. longis, floribus arcte sessilibus; legumen graciliter 2–3 cm. longe stipitatum falcato-lineare ca. 21 cm. longum et 8 mm. latum valde compressum

apice longissime et fere spiniforme attenuatum, basin versus longe angusteque attenuatum, glabrum, marginibus incrassatis obtusisque. —British Honduras: Without special locality, *Percy Gentle* 185 (type in Herb. Field Mus., received from Yale School of Forestry).

Called locally Red cockspur. This bullhorn acacia is remarkable for the form and especially the size of its pods, still immature in the specimen at hand. They are much longer than those of any related species.

Bauhinia Castilloi Standl., sp. nov.—Ramuli gracillimi pallidi glabri flexuosi; folia petiolata subcoriacea, petiolo gracillimo 18–22 mm. longo glabro; lamina integra anguste oblongo-lanceolata vel triangulari-oblonga 8.5–9.5 cm. longa 2.5–3.7 cm. lata apicem obtusum vel acutum versus sensim angustata, basi truncata vel rotundata, supra glabra sublucida in sicco griseo-viridis, nervis venisque prominulis, venulis arcte reticulatis, subtus grisea ubique dense pilis minutissimis adpressis induta, basi 7-nervia, nervis 3 mediis ad vel fere ad apicem protractis elevatis gracilibus, venulis laxe reticulatis; racemi axillares laxe multiflori ca. 4 cm. longi graciliter 3.5 cm. longe pedunculati, rhachi sparse hirtula, pedicellis fere filiformibus ad 14 mm. longis puberulis; calyx 18 mm. longus acuminatus griseo-puberulus ad anthesin uno latere fissus; petala fere linearia 18 mm. longa ad 2 mm. lata extus hirtella; stamen fertile 1, anthera 4 mm. longa.—British Honduras: Freshwater Creek Reserve, February 17, 1939, *A. Castillo* 48 (type in Herb. Field Mus.).

Known locally by the name Cow-tongue. An unusually well distinguished species, because of the simple, entire leaves, which appear glaucous on the lower surface on account of the dense, appressed covering of minute, whitish hairs.

Cassia potosina (Britt. & Rose) Standl., comb. nov. *Chamaecrista potosina* Britt. & Rose, N. Amer. Fl. 23: 283. 1930.—The following collection agrees well with the original description of this species, which was based upon *Purpus* 4832 from Minas de San Rafael, San Luis Potosí: Jaumave, Tamaulipas, in 1932, *H. W. von Rozynski* 546.

Inga chiriquensis Standl., sp. nov.—Arbor 4.5–9 m. alta, ramulis crassis subteretibus densissime pilis brevibus brunneis piloso-tomentosis, internodiis 3.5–4 cm. longis; folia vulgo 6–8-foliolata, petiolo crasso 3–3.5 cm. longo nudo dense piloso-tomentoso, rhachi 8–12 cm. longa dense hirtello-pilosa latiuscule alata 6–7 mm. lata, glandulis majusculis; foliola sessilia inaequalia subcoriacea

elliptico-oblonga vel obovato-oblonga 12–15 cm. longa 5–8 cm. lata obtusa et apiculata, basi inaequali cuneato-obtusa, supra ubique, ad nervos densius, fulvo-hispidula, costa nervisque prominentibus, subtus dense molliter pilis lutescentibus patulis velutino-pilosula, costa nervisque elevatis et insigniter conspicuis; flores spicati, spicis brevibus densifloris crasse 3 cm. longe pedunculatis; legumen juvenile subteres multicostatum 9 cm. longum et ultra 5 mm. diam. dense molliter brunneo-tomentosum.—Panama: Volcán de Chiriquí, Boquete District, Prov. Chiriquí, alt. 2,100 meters, July 13, 1938, *Mrs. M. E. Davidson* 928 (type in Herb. Field Mus.).

Inga Davidsoniae Standl., sp. nov.—Arbor 4.5–9 m. alta dense ramulosa, ramulis crassiusculis brunnescentibus dense molliter piloso-tomentosis, internodiis brevibus; folia plerumque 6-foliolata, petiolo ca. 3 cm. longo dense breviter piloso, anguste alato, rhachi 3–5 cm. longa hirtella vel pilosula anguste alata vix ultra 2 mm. lata, glandulis parvis semiglobosis apice porosis; foliola subcoriacea oblonga vel ovato-oblonga, saepe lanceolato-oblonga, 5–8 cm. longa 2–3 cm. lata acuta usque anguste rotundata, basi obliqua obtusa vel anguste rotundata, supra lucida sparse praesertim ad costam hirtella vel fere glabra, venis prominulis arcte reticulatis, subtus in sicco brunnescentia sparse hispidula vel glabrata, costa nervisque prominentibus; flores ut videtur capitati; legumen anguste oblongum paullo curvatum 17 cm. longum 4 cm. latum sessile, apice truncatum et apiculatum, basi obliqua late rotundatum, subsparse fulvo-hispidulum vel glabratum, marginibus paullo incrassatis bicarinatis, seminibus ca. 16.—Panama: Volcán de Chiriquí, Boquete District, Prov. Chiriquí, alt. 2,250 meters, July 13, 1938, *Mrs. M. E. Davidson* 943 (type in Herb. Field Mus.).

Lupinus cacuminis Standl., sp. nov.—Herba perennis elata ca. 35 cm. alta, caule simplici vel pauciramoso erecto crassiusculo in sicco subangulato vel striato, sat dense foliato, dense pilis brevibus albidis arcte adpressis sericeo; folia modica, petiolo 3–5.5 cm. longo gracili sericeo 1–2 cm. longe vaginato, lobis liberis stipularum lineari-attenuatis ca. 8 mm. longis; foliola vulgo 7 lineari-oblanceolata 2–4 cm. longa 4–5 mm. lata acuta vel subacuminata, basin versus sensim angustata, supra viridia sparse breviter patulo-pilosa, subtus fere concoloria sat dense sericea; racemi densi multiflori 8–10 cm. longi 4 cm. lati, pedicellis ca. 8 mm. longis dense pilis adscendentibus pilosis; bracteae foliosae virides lineares persistentes ad 18 mm. longae persistentes; calyx extus dense sericeus, fere ad basin bilabiatus, segmentis lanceolato-linearibus, inferioribus 10 mm. longis,

superioribus paullo brevioribus, tubo brevi basi fere symmetrice obtuso; vexillum fere 1.5 cm. longum apice late rotundatum, extus in medio prope apicem sparse laxe sericeum; legumen lineari-oblongum ca. 5 cm. longum atque 1.2 cm. latum ubique densissime pilis longis patentibus laxe molliterque pilosum, apice subito acutatum et longirostratum; semina ca. 5.—Mexico: State of Nuevo León, Sierra Madre Oriental, ascent of Sierra Potosí by north hogback, about 20 miles northeast of Galeana, abundant on the alpine meadow and in upper forest, alt. 3,450 meters, July 26, 1934, *C. H. & M. T. Mueller* 1257 (type in Herb. Field Mus.). Peak of Cerro Potosí, abundant in upper pine woods and above timber line, July 21, 1935, *C. H. Mueller* 2269.

The flowers are described as having a bluish lavender keel with a central white area broadest at the apex; or as red in middle upper lip and edge of lower lip, the ground color blue.

Lupinus LeSueurii Standl., sp. nov.—Herba perennis plus minusve caespitosa 12–15 cm. alta, caudice apice dense basibus persistentibus petiolorum obtecto; folia numerosa 4–8 cm. alta, petiolo gracili 2–5 cm. longo dense pilis longis patulis albidis piloso ca. 12 mm. longe vaginato, lobis liberis stipularum 4–5 mm. longis attenuato-linearibus; foliola vulgo 7 anguste obovata vel elliptico-oblanceolata 5–16 mm. longa 2.5–7 mm. lata, apice obtusa et cuspidato-apiculata, basin versus cuneato-angustata, utrinque sat dense pilis laxis albidis subadpressis pilosa; pedunculus gracillimus dense pilis longis patulis laxe pilosus erectus, racemo 3.5–6 cm. longo laxe multifloro, pedicellis ca. 3 mm. longis dense pilosis; calyx late campanulatus 4 mm. longus dense albo-pilosus, basi uno latere auctus et subcalcaratus, segmentis labii inferioris lanceolato-linearibus; bracteae deciduae lineari-lanceolatae alabastra subaequantes; corolla ut videtur intense caerulea, vexillo 7 mm. longo extus glabro. —Mexico: Salto Canyon, Babicora, Chihuahua, July 22, 1937, *Harde LeSueur* 1346 (type in Herb. Field Mus.). Mojarachic, Chihuahua, April 10, 1938, *I. W. Knobloch* 5070.

Lupinus Muelleri Standl., sp. nov.—Herba perennis elata superne ramosa ca. 60 cm. alta, ramis gracilibus rigidis teretibus densissime pilis albidis vel griseis brevibus adscendentibus vel adpressis sericeis, sat dense foliatis, internodiis brevibus; folia parva, petiolo gracili 10–14 mm. longo sericeo brevissime vaginato, lobis liberis stipularum lineari-attenuatis ca. 8 mm. longis; foliola vulgo 7 anguste oblanceolato-oblonga plerumque 13–18 mm. longa et 3–4 mm. lata acuta vel acutiuscula atque cuspidato-apiculata,

utrinque dense griseo-sericea; racemus ca. 9 cm. longus et 4 cm. latus sublaxe multiflorus, pedicellis gracilibus usque 10 mm. longis dense patulo-pilosis; bracteae lineares inconspicuae deciduae; calyx extus dense albo-pilosus fere ad basin bilabiatus, segmentis lanceolato-linearibus subaequalibus, inferioribus 7 mm. longis; vexillum 1.5 cm. longum glabrum.—Mexico: State of Nuevo León, abundant throughout the pine woods, Las Canoas, on Cerro Potosí, Municipio de Galeana, July 17, 1935, *C. H. Mueller* 2205 (type in Herb. Field Mus.).

The flowers are described as varying from blue through lavender to purple.

Lupinus texensis Hook. f. **albus** Standl., f. nov.—E typo speciei tantum petalis albis differt.—Texas: Madisonville, April 16, 1932, *George L. Fisher* 3225 (type in Herb. Field Mus.).

White-flowered plants are not particularly rare among the lupines, and an albino form of the Texas bluebonnet was to be expected, although I find no record that it has been reported formally.

Phaseolus phanerophlebius Standl., sp. nov.—Herba volubilis, caule ramoso angulato gracili sparse pilis brevibus reflexis brunnescentibus piloso, internodiis brevibus; stipulae lanceolato-ovatae 5 mm. longae acutae erectae striato-nerviae; folia inter minora 3-foliolata, petiolo gracili 2–3 cm. longo retrorso-piloso; foliola crasse membranacea trinervia lineari-lanceolata vel anguste lanceolato-oblonga 3.5–6 cm. longa 8–15 mm. lata acuta vel attenuato-acuta, basi rotundata vel subtruncata, interdum prope basin subangulata, supra lucida glabrata, subtus sparse hispidula, pilis brunnescentibus plerumque patulis, venis prominentibus arcte reticulatis; racemi pauciflori ca. 12 cm. longe pedunculati nodosi ca. 3 cm. longi, bracteis striatis oblongo-lanceolatis 4 mm. longis; calycis glabrati tubus late campanulatus 4 mm. longis, segmentis inferioribus lineari-attenuatis 5–6 mm. longis; corolla intense caerulea 2.5 cm. longa.—Panama: Trailing herb on open hillside, Boquete, Prov. Chiriquí alt. 1,200 meters, June 25, 1938, *Mrs. M. E. Davidson* 757 (type in Herb. Field Mus.).

Phaseolus Rimbachii Standl., sp. nov.—Herba volubilis ramosa, caule gracili subtereti sparse saltem prope nodos pilis albis laxis brevibus patulis consperso; stipulae virides lanceolatae acutae striatae 3–4 mm. longae erectae persistentes; folia inter minora, petiolo gracili ca. 3 cm. longo fere glabro, rhachi 1–1.5 cm. longa, stipellis filiformibus 2–3 mm. longis; foliola breviter petiolulata

rhombico-ovata 3–4.5 cm. longa 2–3.5 cm. lata acuta vel acuminata, basi latissime cuneata, membranacea, utrinque fere glabra, supra viridia, subtus glaucescentia; pedunculi 7–12 cm. longi graciles fere glabri, racemis paucifloris laxis usque 5 cm. longis, rhachi sparse laxe pilosa, pedicellis curvis sparse pilosis usque 8 mm. longis, bracteolis lanceolatis vix 2 mm. longis; calyx late campanulatus 3.5–4 mm. longus basi late rotundatus glaber subaequaliter breviter lobatus, lobis latis ciliatis; vexillum 10–12 mm. longum glabrum; ovarium glabrum apicem versus dilatatum, stylo 8 mm. longo dorso infra apicem dense barbato.—Ecuador: Interandine highland, alt. 2,800 meters, *A. Rimbach* 292 (type in Herb. Field Mus.).

"A perennial herb, climbing to a height of 5 meters." The glaucous or glaucescent under surface of the leaflets is a conspicuous feature of the species.

Pithecolobium Davidsoniae Standl., sp. nov.—Arbor 6–12-metralis fere glabra, ramulis teretibus gracilibus dense elevato-lenticellatis brunnescentibus, internodiis brevibus vel elongatis glabris vel obscure minute puberulis; folia parva plerumque 6-foliolata, rhachi petioloque nudis sparse minute puberulis vel fere glabris, petiolo eglanduloso, rhachi glandulis parvis depressis solis inter foliola onusta; foliola membranacea brevissime petiolulata inaequalia oblongo-elliptica vel elliptica 4–7.5 cm. longa 1.8–4 cm. lata acuta vel obtusa, basi inaequali acuta, glabra vel glabrata, subtus paullo pallidiora; flores viridescenti-lutei capitati, capitulis globosis 1.5 cm. diam. axillaribus vel e nodis defoliatis nascentibus, pedunculis 2–3 cm. longis glabris supra medium minute bracteatis; calyx glaber 2–2.5 mm. longus tubulosus, dentibus triangulari-ovatis tubo duplo brevioribus; corolla glabra tubulosa 6–7 mm. longa gracilis, lobis obtusis vix ultra 1 mm. longis.—Panama: Volcán de Chiriquí, Boquete District, Prov. Chiriquí, alt. 2,100 meters, July 12, 1938, *Mrs. M. E. Davidson* 900 (type in Herb. Field Mus.).

Swartzia phaneroptera Standl., sp. nov.—Arbor 15–30-metralis fere glabra, ramulis gracilibus subteretibus rimosis et lenticellatis; folia magna pinnata 5–7-foliolata ca. 35 cm. longa vel ultra, petiolo 7–18 cm. longo versus apicem latiuscule alato, paribus foliolorum 4–5.5 cm. distantibus, rhachi latiuscule alata 5–6 mm. lata; foliola subaequalia crasse membranacea oblonga, obovato-oblonga vel oblanceolato-oblonga 12–19 cm. longa 5–8 cm. lata subito attenuato-acuminata, basin versus paullo angustata, basi ipsa obtusa, supra in sicco olivacea lucida ad costam puberula, aliter glabra, nervis tenerrimis prominentibus, venulis prominulis arcte reticulatis, sub-

tus paullo pallidiora glabra, costa tenui elevata, nervis lateralibus utroque latere ca. 7; inflorescentia (in statu fructifero tantum visa) 12 cm. longe pedunculata pendula(?), ut videtur pauciflora, pedicellis crassis fere 2 cm. longis; legumen (post dehiscentiam et vacuum tantum visum) 1.5–2 cm. longe stipitatum teres glabrum lucidum acuminato-rostratum 9–14 cm. longum, saepe hinc inde inter semina abrupte constrictum, ca. 1.5 cm. latum.—Honduras: Dept. Colón, Guarunta, Wispernini Camp, alt. 15–23 meters, in tropical rain forest, March, 1938, *Christine & Wolfgang von Hagen* 1394 (type in Herb. Field Mus.); also, from the same locality, but sterile, no. 1370.

Trifolium Schneideri Standl., sp. nov.—Herba pumila dense caespitosa, caulibus plus minusve elongatis usque 8 cm. longis intertextis apice dense foliatis usque 3 mm. crassis, partibus infra apices dense stipulis vetustis obtectis; stipulae lineari-lanceolatae 3–4 mm. longae attenuatae; folia parva 3-foliolata, petiolo ad 1 cm. longo sparse adpresso-pilosulo; foliola subsessilia cuneato-obovata 5–6 mm. longa 4–5 mm. lata saepissime breviter emarginata glabra costato-nervia; capitula brevissime pedunculata foliis multo breviora plerumque 3–4-flora, bracteis brevissimis, floribus breviter pedicellatis; calyx ca. 4 mm. longus basi acutiusculus 10-nervius, sparse brevissime pilosulus, lobis lanceolato-linearibus rigidis attenuatis erectis tubo fere duplo longioribus; corolla glabra 5–6 mm. longa persistens; legumen glabrum turgidum apiculatum ca. 4 mm. longum. —Mexico: In cracks between rocks, exposed alpine slope of Cerro Potosí, alt. 3,750 meters, Municipio de Galeana, State of Nuevo León, July 20, 1938, *Richard A. Schneider* 942 (type in Herb. Field Mus.).

"A plant whose tough, much branched stems grow in the cracks between the rocks of the mountain top, leaving only the tips of the branches exposed. The tiny leaves and flowers hug the surface. Found only locally on the most exposed and rocky areas of the peak. Not abundant anywhere, flowering and even fruiting plants being difficult to locate. Observed only above timber line. Apparently nearly out of bloom at this date. Flowers pure, pale pink."

This is one of the many interesting plants collected in 1938 on Cerro Potosí by the Mexican Biological Expedition of Students of the University of Illinois. In habit and general aspect the plant bears no close resemblance to any other Mexican clover, and it is presumably one of the localized types confined, so far as now known, to this isolated high peak.

Vicia canifolia Standl., sp. nov.—Herba cirrhifera perennis ca. 60 cm. alta simplex, caule striato dense pilis laxis albis patulis

piloso, internodiis plerumque ca. 2 cm. longis; stipulae lineares erectae striatae 5 mm. longae; folia sessilia ca. 6 cm. longa cirrho terminata, rhachi nuda dense albo-pilosula; foliola ca. 34 remota linearia vulgo 1–2 cm. longa 1–1.3 mm. lata obtusa et apiculata trinervia utrinque dense pilis laxis patulis albis pilosula, margine interdum revoluto; racemi axillares solitarii secundi 2.5 cm. longe pedunculati ca. 3 cm. longi dense multiflori (flores ad 25), pedicellis vix 2 mm. longis pilosulis; calyx pallidus pilosulus 3–3.5 mm. longus basi oblique rotundatus, dentibus subremotis angustis erectis; corolla ut videtur alba caeruleo tincta 1 cm. longa, petalis glabris.—Mexico: La Cima, Chihuahua, June 29, 1936, *Harde LeSueur* 714 (type in Herb. Field Mus.).

This may be only a variety of one of the normally green and glabrate species of Mexico. The abundant, whitish, lax and spreading pubescence gives the plant a pale coloring that is most distinctive.

RUTACEAE

Amyris tripetala Standl., sp. nov.—Arbuscula 3–6-metralis omnino glabra, ramulis gracilibus tortuosis nigrescentibus longitrorsum rugosis; folia alterna plerumque trifoliolata, interdum 1-foliolata, petiolo gracillimo 1–2 cm. longo, rhachi gracili nuda ca. 2 cm. longa; foliola parva usque 3 mm. longe petiolulata vel subsessilia inaequalia angustissime lanceolata 4–7 cm. longa 8–13 mm. lata, longissime attenuata, acumine ipso obtuso, basin versus sensim angustata, fere integra vel apicem versus sparse obscure crenulata, supra lucida, nervis venisque prominulis, subtus paullo pallidiora, costa tenui prominente, nervis lateralibus numerosis obliquis angulo ca. semirecto adscendentibus inaequalibus fere rectis prominentibus, venulis prominulis laxe reticulatis; inflorescentia terminalis cymoso-paniculata sublaxe multiflora breviter pedunculata 5.5 cm. longa atque 9 cm. lata vel minor, ramis primariis gracillimis plerumque late divergentibus, floribus trimeris cymose aggregatis, bracteis late ovatis minus quam 1 mm. longis, pedicellis vix ad 2 mm. longis; sepala rotundo-ovata apiculata 0.5 mm. longa; petala 2.5 mm. longa ovali-elliptica apice obtusissima 1-costata; stamina 3 petalis fere duplo longiora, antheris ovalibus 1 mm. longis.—Panama: Boquete, Prov. Boquete, alt. 1,140 meters, May 12, 1938, *Mrs. M. E. Davidson* 621 (type in Herb. Field Mus.).

"Flowers creamy white." In its trimerous flowers the tree is perhaps anomalous in the genus *Amyris*, to which it seems best referred. The narrow leaflets distinguish it from other Central American species.

Zanthoxylum citroides Standl., sp. nov.—Rami inermes teretes olivacei vel subochracei crassi aliquanto nodosi glabri, internodiis brevibus; folia modica glabra pinnata petiolata ut videtur 3–5-foliolata, petiolo 2.5–3 cm. longo superne late alato et 6–8 mm. lato, inferne nudo vel anguste marginato, rhachi inter foliola late alata et usque 1 cm. lata; foliola membranacea elliptico-oblonga 8 cm. longa atque 3 cm. lata vel minora acuminata, basi acuminata, sparse grosseque pellucido-punctata, in toto margine minute crenulata vel fere integra; flores parvi in axillis vel ad nodos defoliatos dense aggregati numerosi sessiles vel subsessiles trimeri; sepala rotunda ca. 0.8 mm. longa apice late rotundata; petala lata fere 2 mm. longa apice rotundata.—Mexico: North slope of Volcán de Tacaná, Chiapas, alt. 2,100 meters, April 2, 1939, *E. Matuda* 2961 (type in Herb. Field Mus.).

Marked by the combination of few acuminate leaflets, broadly winged leaf rachis, and densely crowded clusters of sessile flowers.

MELIACEAE

Trichilia Davidsoniae Standl., sp. nov.—Arbor fere omnino glabra, ramulis crassis teretibus, novellis rugulosis minutissime strigillosis, cito glabratis, internodiis ut videtur brevibus; folia 5-foliolata 5–5.5 cm. longe petiolata, petiolo rigido supra plano minute strigilloso, rhachi 4–5 cm. longa ad nodos paullo incrassata; foliola coriacea glabra 7–14 mm. longe petiolulata cuneato-oblongo-obovata 7–12 cm. longa 4.5–5.5 cm. lata, apice late rotundata vel subtruncata, basin versus longe sensim cuneato-angustata, supra lucidissima, costa prominente, nervis venisque prominentibus atque laxe reticulatis, margine plus minusve revoluto, subtus paullo pallidiora opaca, costa elevata, nervis lateralibus utroque latere ca. 8 angulo lato divergentibus fere rectis prope marginem arcuato-conjunctis prominulis, venis obscuris et non elevatis; inflorescentia ut videtur parva axillaris pauciflora petiolo brevior, floribus breviter crasseque pedicellatis; capsula 2 mm. longe crasseque stipitata subglobosa sparse puberula vel fere glabra lucida in sicco rugosa obtuse trigona fere 1.5 cm. longa 12 mm. lata, apice basique rotundata; semina ca. 9 mm. longa 5 mm. lata.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, February 28, 1938, *Mrs. M. E. Davidson* 347 (type in Herb. Field Mus.).

The material is incomplete and scant, having been taken from a branch found on the ground, but it is sufficient to illustrate an apparently quite distinct Central American species, marked by the few, cuneate-obovate, coriaceous, very lustrous leaflets.

DICHAPETALACEAE

Tapura bullata Standl., sp. nov.—Arbor parva, ramis teretibus rimosis fusco-ferrugineis, internodiis ca. 4 cm. longis ochraceo-tomentellis vel cito glabratis; folia magna brevissime petiolata coriacea solemniter bullata, petiolo crasso 10–14 mm. longo tomentello vel glabrato; lamina anguste lanceolato-oblonga ca. 22 cm. longa vel ultra et 5–6 cm. lata subsensim longiacuminata, basi valde inaequilaterali uno latere rotundata altero acuta, supra in sicco fusca lucida glabra, nervis venisque sat profunde impressis, subtus paullo pallidior sparse hinc inde hirtella vel fere glabra, costa prominente, nervis lateralibus utroque latere ca. 8 obliquis curvis prominentibus angulo semirecto vel paullo latiore adscendentibus prope marginem arcuato-junctis, venis elevatis laxe reticulatis; flores in petiolo infra basin laminae dense aggregati parvi ca. 2.5 mm. longi, sepalis anguste oblongis intus glabris extus dense pilis brevibus ochraceis patulis vel subadpressis dense hirtellis.—Colombia: Vicinity of Barranca Bermeja, Magdalena Valley, between Sogamoso and Colorado rivers, Dept. Sur de Santander, alt. 100–500 meters, January 11, 1935, *Oscar Haught* 1510 (type in Herb. Field Mus.).

Probably the first species to be reported for Colombia of this small genus, which ranges from the Guianas to Amazonian Peru. The large, conspicuously bullate leaves distinguish it from all other species.

EUPHORBIACEAE

Croton Skutchii Standl., sp. nov.—Arbor gracilis 27-metralis, ramulis crassis in sicco angulatis sparse minute adpresso-lepidotis; folia magna longipetiolata membranacea, petiolo crassiusculo 10–13 cm. longo dense vel sparse adpresso-lepidoto, apice glandulis 2 orbicularibus flavescentibus depressis onusto; lamina ovato-ovalis ca. 24 cm. longa atque 14 cm. lata acuta vel breviter acuminata, basi lata breviter cordata, supra viridis glabra, subtus paullo pallidior ubique minute sparse vel densius adpresso-lepidota, costa tenui prominente, nervis lateralibus utroque latere ca. 17 angulo latiusculo adscendentibus prominentibus teneris fere rectis prope marginem dichotomis, venis transversis remotis subparallelis, venulis inconspicuis laxe reticulatis; racemi axillares longissimi breviter pedunculati sat dense multiflori subcurvi 20–25 cm. longi ca. 1 cm. lati, floribus infimis 3–5 femineis, reliquiis numerossissimis dense aggregatis masculis; flos femineus usque 8 mm. longe pedicellatus, sepalis foliaceis late ellipticis 8 mm. longis ut videtur post anthesin paullo accrescentibus apice obtusis vel rotundatis utrinque densissime

lepidotis; ovarium pilosum, stylis repetite dichotomis; alabastra mascula ca. 2.5 mm. diam., calyce extus dense lepidoto ad medium lobato, lobis late ovatis obtusis; petala sepalis paullo longiora ciliata. —Costa Rica: In clearings, vicinity of El General, Prov. San José, alt. 670 meters, June, 1939, *Alexander F. Skutch* 4377 (type in Herb. Field Mus.).

Pera barbellata Standl. Field Mus. Bot. 8: 19. 1930.—When this species was published, a single collection was known, *Schipp* 201, from British Honduras. In more recent years several additional specimens have come to hand, and they may be reported as follows: British Honduras: Machaca, in forest, alt. 15 meters, a tree of 9 meters, the trunk 22 cm. in diameter, August, 1933, *Schipp* S578. All Pines, in secondary forest, at sea level, a tree of 12 meters, *Schipp* 568. —Guatemala: Santa Teresa, Subín River, Petén, April, 1933, *Lundell* 2686. La Libertad, Petén, April, 1933, *Lundell* 3067.—Mexico: Uvero, Oaxaca, near sea level, May, 1937, *L. Williams* 9412.

Regarding the Mexican tree Mr. Williams has supplied the following notes: Local name Palo prieto. A tree 21 m. tall, with narrow crown; trunk round, moderately straight, 40–70 cm. in diameter, unbranched for about 16 m.; bark 6–12 mm. thick, chocolate-brown with gray patches and with small scales; inner bark deep yellow. Sapwood white to deep yellow, darkening slightly on exposure to the air; heartwood distinctly defined, medium brown to chocolate-brown, composing about one-third of the wood; has a slightly unpleasant odor when freshly cut; used mostly for railroad ties. In forest on dry slopes and in low, slightly humid land.

Phyllanthus Millei Standl., sp. nov.—Frutex 2-metralis distiche ramosus, ramis subteretibus viridibus pallide lenticellatis, novellis angulatis dense puberulis vel minute villosulis, internodiis foliis brevioribus; folia parva biseriatim inserta brevissime petiolata tenuiter membranacea, petiolo tenui vix 1.5 mm. longo; lamina ovato-ovalis vel rotundato-ovalis 8–13 mm. longa 7–9 mm. lata apice late rotundata et interdum breviter emarginata, basi obtusa vel rotundata, utrinque sparse sordido-puberula, nervis lateralibus utroque latere ca. 4 arcuatis inconspicuis; flores axillares solitarii vel saepius paucifasciculati, pedicellis filiformibus solemniter inaequalibus minute puberulis usque 4 mm. longis; sepala 5 ovalia vel ovata fere 2 mm. longa apice obtusissima pallido-marginata.—Ecuador: In regione tropica, ad Bahía, January, 1938, *Luis Mille* 1061 (type in Herb. Field Mus.).

AQUIFOLIACEAE

Ilex chiriquensis Standl., sp. nov.—Arbor omnino glabra, ramis crassis ochraceis teretibus, internodiis brevibus; folia modica petiolata crasse coriacea, petiolo crasso canaliculato 8–12 mm. longo; lamina in sicco subfusca rotundato-elliptica vel late cuneato-obovata 3.5–6 cm. longa 3–5 cm. lata apice late rotundata et subemarginata, basi obtusa vel late cuneata, infra medium integra, supra medium obscure et brevissime remoteque adpresso-crenata, crenis utroque latere ca. 4, supra lucida, costa prominula, nervis manifestis sed non elevatis, subtus opaca sparse nigro-punctata, costa crassiuscula prominente, nervis lateralibus utroque latere ca. 4 angulo lato divergentibus remote a margine irregulariter conjunctis, venis vix prominulis laxe reticulatis; flores in axillis vel ad nodos defoliatos fasciculati, pedicellis crassis usque 3 mm. longis (et ultra?); calyx 1.5–2 mm. altus breviter lobatus, lobis late rotundatis.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, February 1, 1938, *Mrs. M. E. Davidson* 243 (type in Herb. Field Mus.).

The available material is scant, consisting of a small branch found upon the ground, with a few leaves and flower buds. The leaves are quite unlike those of any species previously known from southern Central America, being unusually wide, broadly rounded at the apex, and few-nerved.

Ilex Davidsoniae Standl., sp. nov.—Arbor humilis omnino glabra, ramis subteretibus in sicco fuscis lenticellis pallidis elevatis conspersis, internodiis aliquanto elongatis; folia modica breviter petiolata coriacea in sicco fusca, petiolo crasso 5–7 mm. longo canaliculato; lamina oblongo-elliptica ca. 9.5 cm. longa et 4.5 cm. lata subabrupte acuminata, acumine ipso obtuso, basi obtusa, fere ad basin grosse inaequaliter crenata (dentibus utroque latere ca. 14), supra lucida, costa impressa, nervis fere obsoletis, costa subtus elevata, nervis lateralibus utroque latere ca. 8 angulo lato divergentibus; flores feminei numerosi umbellati, umbellis in axillis aggregatis paucifloris breviter pedunculatis, pedicellis fructiferis crassis angulatis 3–5 mm. longis; calyx sub fructum patens 2.5 mm. latus incrassatus brevissime lobatus, lobis latis rotundatis subapiculatis; fructus immaturus ellipsoideo-globosus 4 mm. longus stylo magno depresso coronatus.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, January 25, 1938, *Mrs. M. E. Davidson* 166 (type in Herb. Field Mus.).

RHAMNACEAE

Gouania hypoglauca Standl., sp. nov.—Frutex scandens 5-metralis, ramis crassis teretibus brunneis sat dense breviterque pilosis, pilis patulis brunneis, internodiis foliis multo brevioribus; folia modica petiolata subcoriacea, petiolo crassiusculo 7–8 mm. longo dense brunneo-hirtello; lamina oblongo-ovata vel ovali-ovata 5.5–8.5 cm. longa 3–4.5 cm. lata subito acuta vel breviter acuminata, basi truncata vel emarginata, supra in sicco fusca sparse pilis patulis brunnescentibus pilosa, costa nervisque anguste impressis, subtus griseo-fulvida ubique tomento arcte adpresso densissime obtecta, ad nervos adpresso-pilosa, e basi trinervia, costa gracili prominente, nervis lateralibus utroque latere ca. 3 angulo semirecto adscendentibus, margine remote inconspicue adpresso-crenato; flores spicati, spicis (juvenilibus cum alabastris tantum visis) dense multifloris breviter pedunculatis racemose paniculatis.—Costa Rica: Villa Quesada, Cantón de San Carlos, Prov. Alajuela, alt. 750 meters, edge of Caribbean rain forest, April 14, 1939, *Austin Smith* F1952 (type in Herb. Field Mus.).

From all other *Gouania* species of Central America, the present Costa Rican plant is distinguished by the very dense, yellowish gray, closely appressed tomentum of the lower leaf surface.

TILIACEAE

Sloanea Picapica Standl., sp. nov.—Arbor 15-metralis ut videtur dense ramulosa, ramulis sat gracilibus et dense foliatis fusco-ferrugineis pallido-lenticellatis minutissime sericeis vel fere glabris; folia parva coriacea breviter petiolata in sicco subfusca, petiolo subgracili 5–7 mm. longo glabrato; lamina lanceolato-ovata vel elliptico-oblonga 5–7 cm. longa 2–3 cm. lata subabrupte longe anguste acuminata, acumine ipso obtuso, basi obtusa vel subacuta, glabra, supra sublucida, nervis venisque non elevatis, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere ca. 7 teneris prominentibus angulo lato adscendentibus remote a margine arcuato-conjunctis, venis obscuris laxe reticulatis; flores axillares solitarii vel breviter racemosi, pedicellis fructiferis rectis ca. 1 cm. longis minutissime hirtellis; capsula ellipsoidea 4-valvata monosperma 1.5–2 cm. longa basi et apice obtusa dense purpurascenti-tomentosa, ubique dense setis glabris purpurascentibus usque 7 mm. longis induta; semen ovale 1 cm. longum 6 mm. latum.—Honduras: Tropical rain forest, alt. 15–23 meters, Guarunta, Wispernini Camp, Dept. Colón, March, 1938, *Christine & Wolfgang von Hagen* 1390 (type in Herb. Field Mus.).

Local name, Picapica. In its small, glabrous, long-acuminate leaves in combination with the form of its fruit this is altogether unlike any other species of *Sloanea* known from Central America.

MALVACEAE

Sida turneroides Standl., sp. nov.—Herba perennis ca. 30 cm. alta, caulibus solitariis vel pluribus gracilibus rigidis simplicibus vel pauciramosis erectis viridibus minutissime pilis stellatis sessilibus conspersis, internodiis saepissime foliis paucis longioribus; stipulae filiformes 6–8 mm. longae; folia parva breviter petiolata membranacea, petiolo gracili 4–7 mm. longo stellato-puberulo; lamina anguste oblonga usque ovali-oblonga 2–3.5 cm. longa 1–1.5 cm. lata, apice obtusa vel anguste rotundata atque mucronata, basi obtusa vel rotundata, grosse inaequaliter serrata, supra laete viridis sparse setuloso-pilosa vel fere glabra, subtus pallidior pilis minutis stellatis sparse conspersa; flores axillares et solitarii vel ad apicem caulis pauci et aggregati, pedunculis 7 mm. longis vel brevioribus crassiusculis minute stellato-puberulis; calyx late campanulatus 6–7 mm. longus angulatus extus sparse minute stellato-pubescens, ad costas adpresso-pilosus, fere ad medium lobatus, lobis late triangularibus acutis vel acuminatis erectis; petala ca. 12 mm. longa glabra; carpella fructus 7 glabrata 3 mm. longa obtusa, apice spinis 2 rigidis erectis 1.5 mm. longis onusta.—Mexico: Jaumave, Tamaulipas, in 1932, *H. W. von Rozynski* 514 (type in Herb. Field Mus.).

In general appearance the plant has some resemblance to *Sida acuta* Burm., and the leaves probably are distichous as in that species.

BOMBACACEAE

Hampea latifolia Standl., sp. nov.—Arbor humilis, ramulis crassiusculis glabratis sed pilis paucis remotis parvis stellatis conspersis, internodiis brevibus; folia magna longipetiolata membranacea, petiolo tereti usque 16 cm. longo crassiusculo glabrato; lamina rotundo-cordata 15–21 cm. longa 15–20 cm. lata acuta, apice ipso obtuso, basi profunde cordata, obscure 3-angulata, margine integro vel subundulato, supra fere glabra sed praesertim ad venas pilis paucis parvis sessilibus stellatis conspersa, subtus paullo pallidior, subdense pilis parvis stellatis induta, basi 7-nervia; flores in axillis 2–4-fasciculati, pedicellis crassiusculis usque 1.5 cm. longis apicem versus paullo incrassatis dense stellato-furfuraceis, pilis sessilibus vel ex parte stipitatis; calyx 1 cm. longus vel paullo ultra extus densissime albide stellato-tomentellus in anthesi irregulariter breviter lobatus; petala ca. 3.5 cm. longa apice obtusa vel late sub-

truncata atque ad 2 cm. lata inaequilateralia remote fusco-punctata, latere altero densissime stellato-furfuracea; stamina numerosissima petalis paullo breviora.—Guatemala: Finca San José Nil, Retalhuleu, August 23, 1936, *W. R. Hatch & C. L. Wilson* 383 (type in Herb. Field Mus.).

In the writer's key to the species of *Hampea* (Journ. Wash. Acad. Sci. 17: 395. 1927) this would run at once to *H. platanifolia* Standl., a plant of the Pacific lowlands of Costa Rica. That is evidently distinct in its more abundant, coarse, rather than close and more or less furfuraceous, pubescence.

GUTTIFERAE

Clusia conferta Standl., sp. nov.—Arbor omnino glabra, ramulis crassis, internodiis brevibus; folia magna fere sessilia coriacea, petiolo ca. 1 cm. longo sed late usque ad basin alato; lamina oblonga vel aliquanto cuneato-oblonga 21–24 cm. longa 9 cm. lata, apice rotundata, basin versus paullo angustata, basi ipsa late cuneata, in sicco brunnescens, nervis supra manifestis sed non elevatis, subtus concolor, costa crassa elevata, nervis lateralibus utroque latere numerosis tenerrimis angulo latiusculo abeuntibus; inflorescentia terminalis capitato-congesta 5 cm. longe pedunculata, floribus ca. 9 sessilibus, bracteis late ovatis coriaceis concavis arcte adpressis ca. 8 mm. longis apice obtusis vel rotundatis; sepala 4 decussata crasse coriacea rotundata, saepe latiora quam longa, apice late rotundata; ovarium magnum subglobosum, columna stylari crassa fere 4 mm. longa 2.5 mm. crassa, stigmatibus 6 ovato-ovalibus 2 mm. longis minutissime papillosis.—Guatemala: Banks of Río Dulce, Dept. Izabal, March 28, 1939, *C. L. Wilson* 401 (type in Herb. Field Mus.).

Clusia orthoneura Standl., sp. nov.—Arbor 12–18-metralis, trunco ut dicitur 5–7.5 cm. diam., ramulis subgracilibus rugosis ferrugineis, in sicco transverse rugulosis vel rimosis, internodiis plerumque brevibus; folia inter minora petiolata coriacea, petiolo crassiusculo 8–12 mm. longo; lamina anguste lanceolato-oblonga utrinque fere aequaliter angustata 6.5–9.5 cm. longa 1.8–3.5 cm. lata, apicem versus sensim attenuata, apice obtuso vel acuto, basin versus sensim attenuata, costa nervisque supra manifestis sed non elevatis, subtus concolor, costa tenui basin versus elevata sursum evanescente, nervis lateralibus obscuris et non elevatis angulo angustissimo adscendentibus, cum costa fere parallelis, utroque latere ca. 7; inflorescentia terminalis 1–3-flora 2 cm. longe peduncu-

lata, pedicellis crassis compressis ca. 1.5 cm. longis, bracteis concavis latissime ovatis 6–7 mm. longis obtusis; sepala 4, exteriora 13 mm. longa et bene latiora apice late rotundata arcte adpressa, interiora 8 mm. tantum longa; petala 2 cm. longa et ultra ca. 2.5 cm. lata; columna staminalis 8 mm. alta 7 mm. crassa, staminibus ca. 20, filamentis crassis ca. 6 mm. longis, antheris recurvis paullo ultra 2 mm. longis.—Colombia: Region of Chapón, State of Boyacá, 100 miles northwest of Bogotá, in low, dense forest, alt. 1,080 meters, June 2, 1932, *A. E. Lawrance* 131 (type in Herb. Field Mus.).

"Flowers pinkish white with yellow stamens. An epiphytic tree, growing high up on the broken trunk of another forest giant." The species is noteworthy for the unusually narrow leaves with but few nerves running almost parallel with the costa.

COCHLOSPERMACEAE

Cochlospermum trilobum Standl., sp. nov.—Frutex metralis, ramulis teretibus longitrorsum in sicco rugosis ferrugineis pilis patulis brevibus sat dense pilosulis; folia modica longipetiolata membranacea, petiolo gracillimo 3–6 cm. longo pilosulo; lamina 3–6 cm. longa 4–8.5 cm. lata, basi profunde aperte cordata, profunde triloba e basi trinervia, supra viridis sparse breviter pilosa, subtus pallidior dense velutino-pilosa, lobis subaequalibus, posticis late patentibus ellipticis vel ovato-ellipticis apice obtusis vel rotundatis inaequaliter adpresso-serratis; pedicelli 7–15 mm. longi minute puberuli; sepala inaequalia 17 mm. longa late oblonga usque late elliptica apice late obtusa vel rotundata dense minutissime puberula; petala ca. 3 cm. longa; antherae ca. 5 mm. longae lineares; capsula ovoidea 5.5 cm. longa 3 cm. lata acuta, longitrorsum dense striata.—Bolivia: Roboré, alt. 416 meters, in dry soil on pampas, October, 1934, *Martín Cárdenas* 2970 (type in Herb. Field Mus.).

Apparently this is an unusually well marked species, quite unlike any of which I have seen material or description. Characteristic are the trilobate rather than 5-lobate or digitate leaves. The stature also may be distinctive, although the common Central American *Cochlospermum vitifolium*, while usually a small or rather large tree, often flowers when only one or two meters high.

THYMELAEACEAE

Daphnopsis Mello-Barretoi Standl., sp. nov.—Frutex metralis, ramis gracilibus teretibus ferrugineis lenticellis parvis pallidis conspersis, novellis densissime pilis brevibus ochraceis adscendentibus tomentosis, internodiis abbreviatis; folia parva breviter petiolata

crasse membranacea vel subcoriacea, petiolo crasso 3–4 mm. longo; lamina late oblonga vel ovali-oblonga 3–5 cm. longa 1.5–2.5 cm. lata apice rotundata, basi obtusa vel subrotundata et breviter subitoque contracta, supra sat dense pilis plerumque patulis hirtello-pilosa, nervis inconspicuis, subtus paullo pallidior dense molliterque pilosa, costa tenui prominente, nervis lateralibus utroque latere ca. 5 arcuatis angulo lato adscendentibus, venulis prominulis laxiuscule reticulatis; inflorescentiae parvae numerosae pauciflorae, vel elongatae multiflorae et racemiformes, ramis dense ochraceo-pilosis, floribus breviter crasseque pedicellatis; calyx ad basin fructus persistens 2.5–3 mm. longus dense tomentulosus, lobis oblongo-ovatis acutis; stylus brevis, stigmate globoso-capitato; fructus late ellipticus glaber 1 cm. longus 7 mm. latus basi et apice rotundatus.—Brazil: Sujo, Jardim Botanico, Bello Horizonte, uncommon, January 8, 1934, *H. Mello Barreto* 7556 (Jard. Bot. Bello Horizonte 21723; type in Herb. Field Mus.).

Evidently related to *D. brasiliensis* Mart., which differs normally in having much larger and more elongate leaves, conspicuously narrowed at each end.

MYRTACEAE

Calyptranthes Killipii Standl., sp. nov.—Frutex 2.5 m. altus, ramulis subteretibus tortuosis fuscis vel fusco-griseis, internodiis brevibus, primo sparse minute ferrugineo-sericeis cito glabratis; folia modica breviter petiolata coriacea, petiolo crassiusculo 5–6 mm. longo glabrato; lamina elliptica vel obovato-elliptica 6–7.5 cm. longa 2.5–3.5 cm. lata apice obtuse contracta et abrupte caudato-acuminata, acumine usque 13 mm. longo angusto subobtuso, basi cuneato-acuta vel late acuta, supra in sicco griseo-olivacea glaberrima dense minute puncticulata, costa anguste impressa, nervis venisque occultis, subtus in statu juvenili ferruginea et dense arcte sericeo-tomentosa, cito glabrata vel sparse minuteque griseo-sericea, costa gracili elevata, nervis lateralibus obsoletis, margine subrevoluto; flores parvi cymoso-paniculati, cymis paucifloris ca. 1 cm. longis et fere 2 cm. latis basi trichotomis, floribus sessilibus vel breviter pedicellatis, bracteis minutis; calyx ante anthesin obovoideus 2.5–3 mm. longus apice rotundatus dense minutissime ferrugineo-sericeus.—Colombia: In tidal thicket, Buenaventura Bay, Dept. El Valle, May 4, 1939, *E. P. Killip* 35514 (type in Herb. Field Mus.).

Eugenia choapamensis Standl., sp. nov.—Arbor 12-metralis, ramis teretibus fusco-griseis glabris, internodiis brevibus vel rarius

elongatis; folia majuscula breviter petiolata subcoriacea, petiolo crassiusculo 5–7 mm. longo late canaliculato; lamina anguste oblonga vel lanceolato-oblonga 12–16 cm. longa 4–5.5 cm. lata acuta vel acuminata, acumine obtuso, basi acuta, glabra, supra in sicco fusca, costa basin versus subimpressa, nervis obscuris, subtus pallidior brunnescens, costa gracili elevata, nervis lateralibus utroque latere ca. 10 angulo lato abeuntibus teneris prominentibus fere rectis remote a margine arcuato-conjunctis; flores axillares vel saepius e nodis defoliatis nascentes, interdum ut videtur breviter racemosi, pedicellis 10–13 mm. longis rigidis, bracteis latis vix 1 mm. longis patentibus; fructus ellipsoideo-oblongus teres vulgo 2–2.5 cm. longus 8–12 mm. latus glaber, basi et apice obtusus, calycis lobis apice fructus persistentibus vix 2 mm. longis late deltoideo-ovatis apice rotundatis.—Mexico: Near stream in arroyo, San Juanito, Distrito Choapam, State of Oaxaca, alt. 375 meters, April 1, 1938, *Ynes Mexia* 9254 (type in Herb. Field Mus.). In original forest, trail from San Juanito to La Trinidad, alt. 460 meters, April 13, 1938, *Mexia* 9296.

"Flowers white; mature fruit black, edible; bark thin, grayish outside, reddish within." In most respects *E. choapamensis* resembles *E. pleurocarpa* Standl., of the State of Jalisco, but that has smaller and relatively broader leaves, and conspicuously costate fruit.

MELASTOMACEAE

Blakea bella Standl., sp. nov.—Arbor, ramulis gracilibus teretibus pallide brunneis rimosis, internodiis brevibus vel aliquanto elongatis, minute sparse vel subdense stellato-furfuraceis, serius glabratis; folia modica petiolata crasse membranacea, petiolo 1.5–3 cm. longo crassiusculo sparse minuteque stellato-furfuraceo; lamina triplinervia elliptico-oblonga vel anguste elliptica 10–24 cm. longa 4–8 cm. lata subabrupte cuspidato-acuminata, acumine ipso obtuso, basi acuta vel subobtusa, supra glabra densissime pallido-puncticulata, nervis venisque non elevatis, subtus fere concolor, in statu juvenili sparse minute stellato-furfuracea, cito glabrata et in statu adulto fere omnino glabra, nervis primariis teneris prominentibus, venis transversis obscuris; flores axillares solitarii crasse 6–8 mm. longe pedicellati, involucro basi acutiusculo; bracteae exteriores alte connatae extus sparse minute stellato-furfuraceae vel fere glabrae 1.5–2 cm. latae fere 2.5 cm. longae, parte libera ovato-rotundata breviter acuminata, bracteis interioribus omnino coalitis; calyx ca. 16 mm. longus et apice 2.2 cm. latus, lobis brevis-

simis latioribus quam longis apiculatis extus minute stellato-furfuraceis; petala ut videtur rosea 3 cm. longa latissima apice truncata vel late rotundata; antherae late oblongae 5–6 mm. longae, filamentis crassis aequilongis.—Guatemala: Bank of Río Dulce, Dept. Izabal, March 28, 1939, *C. L. Wilson* 402 (type in Herb. Field Mus.); February 6, 1939, *Wilson* 161.

Doubtless this is a showy and handsome tree, because of its abundance of large flowers. The foliage appears glabrous to the naked eye, and is almost so in fact when the leaves are fully developed.

Centronia grandiflora Standl., sp. nov.—Arbor 6-metralis et ultra, ramis obtuse tetragonis dense breviter setoso-pilosis brunneis, internodiis elongatis; folia magna longipetiolata membranacea, petiolo 3.5–7.5 cm. longo dense brunneo-setoso-piloso; lamina subintegra elliptica vel oblongo-elliptica ut videtur 16–25 cm. longa, 7–10 cm. lata, sensim longiattenuata, basi obtusa vel anguste rotundata et breviter emarginata, supra in sicco cinereo-viridis glabra minute puncticulata, nervis venisque manifestis, ut videtur in vivo bullata, subtus brunnescens sat dense minute stellato-pubescens et setoso-pilosa, serius glabrata, 7-plinervia, venis elevatis arcte reticulatis; inflorescentia terminalis pauciflora 5 cm. longe pedunculata, pedicellis crassis ca. 7 mm. longis dense ferrugineo-pilosis; calyx in alabastro 1.5 cm. longus 1 cm. latus densissime pilis longis brunneis intertextis indutus, apice breviter mammillatus; petala glabra late obovata 2 cm. longa apice late rotundata.—Panama: In rain forest, Bajo Chorro, Prov. Chiriquí, alt. 2,100 meters, March 2, 1938, *Mrs. M. E. Davidson* 360 (type in Herb. Field Mus.).

The other Central American species of the genus, *Centronia phlomoides* Triana of Costa Rica, has a calyx only 11–12 mm. long, and petals half as large as those of *C. grandiflora*.

CLETHRACEAE

Clethra obliquinervia Standl., sp. nov.—Ramuli crassi dense stellato-pilosi et tomentelli, internodiis brevissimis; folia mediocria petiolata coriacea in sicco brunnescentia, petiolo crassiusculo 1.5–2 cm. longo dense breviter brunneo-piloso; lamina oblanceolato-oblonga 8–10 cm. longa 2.5–4 cm. lata apice rotundata, basin versus longe sensim attenuata, basi ipsa cuneata vel subobtusa, supra sublucida, fere glabra sed pilis paucis minutis stellatis remotis conspersa, costa nervisque impressis, subtus albida ubique tomento minuto stellato densissime obtecta, nervis lateralibus obliquis

utroque latere ca. 12 teneris prominentibus angulo semirecto adscendentibus, venis obscuris; racemi fasciculati vel breviter paniculati numerosi usque 11 cm. longi breviter pedunculati laxe multiflori, rhachi dense breviter brunneo-stellato-pilosa, pedicellis omnibus brevibus vix ad 3 mm. longis, bracteis lineari-subulatis patentibus calycem aequantibus; calyx dense tomentellus 3.5 mm. longus, lobis oblongo-ovatis obtusis; petala calyce bene longiora glabra ciliata; ovarium dense adpresso-pilosum.—Mexico: Buena Vista, Escuintla, Chiapas, January, 1938, *E. Matuda* 1894 (type in Herb. Field Mus.).

LOGANIACEAE

Buddleia Matudae Standl., sp. nov.—Ramuli obtuse tetragoni dense brunneo-stellato-tomentelli, internodiis superioribus brevibus; folia modica petiolata firme membranacea, petiolo crassiusculo 1.5–3 cm. longo dense stellato-tomentello; lamina oblongo-ovata vel lanceolato-oblonga 8–13 cm. longa 2.5–6 cm. lata sensim vel subito longiacuminata, basin versus sensim angustata vel interdum cuneato-acuta, supra in sicco fusca sparse pilis minutis stellatis conspersa, subtus sordide brunnescens densissime tomento stellato sublaxo obtecta, fere integra vel inconspicue crenulata, costa subtus prominente, nervis lateralibus utroque latere ca. 11 obliquis prominentibus prope marginem arcuato-conjunctis; flores parvi in capitula globosa densissime multiflora 4–7 mm. lata breviter pedunculata dispositi, capitulis racemosis, racemis paniculatis, paniculis late pyramidalibus ca. 10 cm. longis atque 15 cm. latis breviter pedunculatis, ramis dense stellato-tomentosis; calyx fere 2 mm. longus extus laxe stellato-tomentellus, lobis oblongis vel ovato-oblongis erectis obtusis sinubus latis sejunctis tubo fere duplo brevioribus; corolla extus sparse stellato-tomentella vel fere glabra, calycis tubo lobis vix longiore, limbo ca. 3 mm. lato, lobis brevibus late ovalibus vel subrotundatis apice late rotundatis intus glabris.—Mexico: Mount Ovando, Chiapas, December, 1936, *E. Matuda* S-085 (type in Herb. Field Mus.). Mount Pasitar, Chiapas, December 30, 1936, *Matuda* S-36.

GENTIANACEAE

In 1932 the writer described (Rhodora 34: 176) a form of *Eustoma Russellianum* having pure white corollas as *E. Russellianum* f. *Fisheri*, named for the collector, Mr. George L. Fisher. Later in the same year Mr. Fisher made further collections to show the color variations in this showy plant, but the material has lain in the herbarium without further study until the present time. Two

other color variants seem worthy of nomenclatural recognition, and may be named as follows:

Eustoma Russellianum (Hook.) Griseb. f. **bicolor** Standl., f. nov.—Corolla alba, lobis basi purpureo tinctis.—Texas: Willis, July 4, 1932, *C. L. Brock* 32114 (type in Herb. Field Mus.).

Mr. Fisher states that this is an easily recognizable form, about as plentiful as the following one. The three grow together on the farm of Mr. L. D. Cluxton near Willis, in such abundance that he sells large quantities of the flowers each year to florists, especially of the albino form, f. *Fisheri*. In forma *bicolor* the corolla is white except for some purple coloring at the base of the lobes.

Eustoma Russellianum f. **roseum** Standl., f. nov.—Corolla rosea, lobis basi sordide rubris.—Texas: Willis, July 5, 1932, *George L. Fisher* 32116 (type in Herb. Field Mus.).

In this form the corolla is pink or rose-pink, the lobes dark brick-red at the base. The collector states that it is locally plentiful with the type.

EBENACEAE

Diospyros Delgadoi Standl., sp. nov.—Arbor ut videtur dense ramosa, ramulis patentibus nodosis dense puberulis, internodiis brevibus; folia inter minora brevissime petiolata coriacea, petiolo crassiusculo ca. 4 mm. longo; lamina ovalis vel oblongo-elliptica 3–7.5 cm. longa 2–3.5 cm. lata obtusa vel saepe rotundata, basi obtusa, supra in sicco cinerea glabrata, tantum ad nervos sparse minute puberula, costa nervisque prominulis, subtus brunnescens laxe pilis flaccidis intertextis tomentosa, costa gracili prominente, nervis lateralibus utroque latere 3–5 arcuatis teneris prominentibus angulo latiusculo adscendentibus, venis obscuris; calyx in statu fructifero patens ad medium trilobus utrinque sat dense piloso-tomentosus 1.5–2 cm. latus, lobis latissimis acutis vel subacutis; fructus globosus 1.5–2 cm. diam. in maturitate glaber et ad apicem breviter mammillatus sericeus; semina ca. 5 plerumque 1 cm. longa atque 5 mm. lata.—Venezuela: Boundary between Lara and Trujillo, Trentina, November, 1937, *Estéban Delgado* 96 (type in Herb. Field Mus.).

The species is referable to the genus *Maba*, as treated by Hiern and other authors, but *Maba* seems better referable to *Diospyros*, where it has been placed by various recent writers.

Diospyros Mexiae Standl., sp. nov.—Arbor 5-metralis gracilis, ramulis crassiusculis in sicco olivaceis substriatis glabratis, inter-

nodiis brevibus; folia modica breviter petiolata coriacea in sicco olivacea, petiolo crassiusculo 1–1.5 cm. longo; lamina oblongo-lanceolata vel anguste elliptico-oblonga 9–14 cm. longa 3–5 cm. lata acuta vel acuminata, basi acuta, supra lucida glabra vel tantum ad costam sparse puberula, costa impressa, nervis subplanis, subtus ut videtur primo brunneo-tomentella sed cito glabrata, costa gracili elevata, nervis lateralibus utroque latere ca. 10 tenerrimis aliquanto irregularibus prominulis angulo latiusculo adscendentibus rectis vel arcuatis obliquis; flores axillares, pedicellis fructiferis incrassatis vix ultra 3 mm. longis; calyx 3-(vel 4- ?)lobus 2.5 cm. latus vel ultra, profunde lobatus, extus brunneo-tomentellus vel serius glabratus, intus dense sericeus, lobis late deltoideo-ovatis acutis vel acuminatis patentibus; fructus subglobosus vel paullo altior quam latus 2 cm. longus vel ultra apice late rotundatus et mammillatus, ut videtur primo sat dense brunneo-sericeus sed cito glabratus.—Brazil: About 5 km. north of Fazenda da Gramma, on westward face of mountain slope, matta virgem, forming part of understory in dense shade, Districto Carangola, State of Minas Geraes, alt. 920 meters, February 4, 1930, *Ynes Mexia* 4316 (type in Herb. Field Mus.).

CONVOLVULACEAE

Ipomoea Davidsoniae Standl., sp. nov.—Volubilis herbacea, caule gracili dense pilis longiusculis pallidis patentibus piloso, internodiis elongatis; folia modica longissime petiolata membranacea, petiolo gracillimo 5–10 cm. longo dense breviter piloso; lamina late deltoideo-ovato-cordata 5–7.5 cm. longa 3.5–7 cm. lata acuminata vel cuspidato-acuminata, basi profunde lateque cordata, lobis posticis late rotundatis, integra vel subundulata, utrinque dense pilis longiusculis mollibus patentibus pallidis pilosa; inflorescentia perfecta non visa, floribus delapsis ca. 3 mm. longe pedicellatis; sepala subcoriacea subaequalia adpressa ovalia vel elliptica ca. 12 mm. longa apice late obtusa et minute mucronata dense pilis longis pallidis patentibus pilosa; corolla pallide purpurea ca. 4 cm. longa glabra.—Panama: Bajo Mono, Boquete District, Province of Chiriquí, alt. 1,350 meters, April 3, 1938, *Mrs. M. E. Davidson* 595 (type in Herb. Field Mus.).

The available material is not well preserved, but an apparently distinct and undescribed species is represented, noteworthy locally for the abundant pubescence of the foliage, and especially for the densely long-pilose sepals.

Ipomoea quesadana Standl., sp. nov.—Herba volubilis omnino glabra, caule gracillimo, internodiis plerumque elongatis; folia inter minora longipetiolata membranacea, petiolo gracillimo 2.5–6 cm. longo; lamina ambitu late triangulari-ovata plerumque 4–6 cm. longa et 3–6 cm. lata, typice breviter vel subprofunde triloba, lobo medio triangulari vel ovato acuminato, lobis lateralibus medio multo brevioribus, interdum valde reductis vel nullis, lamina basi leviter lateque cordata; lamina foliorum superiorum saepe vulgo reducta et 1–3 cm. tantum longa, rotundo-ovata et interdum apice rotundata, breviter petiolata; flores parvi, pedunculis axillaribus crassiusculis 5–18 mm. longis 1–3-floris interdum granulosis, pedicellis crassis usque 5 mm. longis; sepala subaequalia, exterioribus interdum paullo brevioribus, subcoriacea glabra, apice rotundata vel subtruncata et saepe brevissime mucronata; corolla rosea glabra ca. 2 cm. longa.—Costa Rica: Villa Quesada, Cantón de San Carlos, Prov. Alajuela, alt. 850 meters, February 21, 1939, *Austin Smith* H1609 (type in Herb. Field Mus.).

"Growing in rain forest, Caribbean watershed; small morning-glories, rather fragile, the corolla deep begonia rose in the throat, light pink on the limb, 2.5 cm. long and 2 cm. wide, open at midday."

VERBENACEAE

Clerodendron Moldenkeanum Standl., sp. nov.—Frutex vel arbor ut videtur inermis, ramis crassiusculis fusco-ochraceis, internodiis elongatis, ramulis glabris vel ad nodos sparse pilosis, cicatricibus foliorum delapsorum plus minusve incrassatis; folia bene evoluta non visa, juvenilia in sicco fusca modica breviter petiolata, petiolo crassiusculo ad 7 mm. longo glabro vel sparse piloso; lamina ovata vel lanceolato-ovata 4.5–6 cm. longa 1.5–2.5 cm. lata acuminata, basi acuta vel obtusa, utrinque puncticulata, supra glabra, costa nervisque subimpressis, subtus ad costam nervosque sparse breviter setuloso-pilosa, cito glabrata, costa gracili elevata, nervis lateralibus utroque latere ca. 5 angulo semirecto adscendentibus arcuatis prominentibus; flores in cymulas paucifloras axillares sessiles aggregati, pedicellis gracilibus 1.5–2 cm. longis glabris; calyx glaber, tubo campanulato basi acuto 4 mm. longo, lobis linearisubulatis paullo inaequalibus 5–6 mm. longis erectis glabris; corolla in alabastro 12 mm. longa obtusa extus glabra, tubo limbo fere duplo longiore fauce 2 mm. lato.—Mexico: Volcán de Tacaná, Chiapas, alt. 1,400 meters, March, 1939, *E. Matuda* 2760 (type in Herb. Field Mus.).

This species, evidently distinct from the few known previously from Mexico and Central America, is named for Dr. Harold N. Moldenke, monographer of this and other genera of the Verbenaceae.

SOLANACEAE

Lycianthes amphidoxys Standl., sp. nov.—Frutex scandens, trunco 2 cm. crasso, caulibus usque 5 m. longis ramosis glabris, internodiis brevibus vel aliquanto elongatis; folia inter minora breviter petiolata crasse membranacea, paris valde inaequalia, petiolo 3–8 mm. longo sparse pilosulo vel fere glabro; lamina foliorum majorum lanceolato-oblonga 5–10 cm. longa 1.5–3.5 cm. lata longissime attenuato-acuminata, basi plus minusve inaequali acuta, supra in sicco olivacea sparse breviter scabro-pilosa, subtus fere concolor ad costam nervosque incurvo-puberula vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere ca. 6 teneris arcuatis prominentibus angulo semirecto vel latiore adscendentibus; lamina foliorum minorum rotundato-ovata 1.5–3 cm. longa obtusa vel rotundata, basi rotundata; flores axillares solitarii vel saepius paucifasciculati, pedicellis gracillimis 1.5–2.5 cm. longis glabris; calyx glaber latissime campanulatus ca. 4 mm. altus atque 5 mm. latus truncatus, paullo infra marginem appendicibus 5 viridibus incrassatis obtusis erectis ca. 2 mm. longis onustus; corolla lutea ca. 8 mm. longa extus glabra; bacca globosa 8 mm. diam.—Ecuador: Western Cordillera, forest region above Balsapampa, east of Babahoyo, alt. 2,600 meters, July, *A. Rimbach* 840 (Yale School For. 34191; type in Herb. Field Mus.).

"Flowers 1.5 cm. long, yellow; berry at first whitish, finally red. Wood white. Bark 1 mm. thick, brownish gray, smooth but somewhat fissured, with elongate lenticels."

Lycianthes chiriquensis Standl., sp. nov.—Arbor ut dicitur 9–12-metralis, fere glabra, ramis crassiusculis ochraceis rimosis, internodiis brevibus glabris; folia subaequalia petiolata membranacea, petiolis gracilibus glabris 1–2 cm. longis; lamina inaequilateralis oblongo-elliptica vel oblongo-ovata, rarius late ovata, 5.5–12 cm. longa 2.5–5.5 cm. lata subabrupte acuminata vel longe attenuato-acuminata, basi solemniter inaequali acuta vel obtusa, supra in sicco glabra olivacea, subtus concolor, in axillis nervorum dense stellato-pilosa, aliter glabra, nervis lateralibus utroque latere ca. 5 arcuatis angulo latiusculo adscendentibus; flores axillares plerumque paucifasciculati, pedicellis fere filiformibus vulgo 10–14 mm. longis, interdum brevioribus, glabris; calyx campanulatus truncatus

basi obtusus 3.5 mm. longus et aequilatus; corolla pallide purpurea extus glabra 8 mm. longa ad basin lobata, segmentis late patentibus lineari-oblongis acutiusculis intus glabris; antherae fere 6 mm. longae obtusae.—Panama: In forest, Boquete, Prov. Chiriquí, alt. 1,140 meters, May 12, 1938, *Mrs. M. E. Davidson* 623 (type in Herb. Field Mus.).

The flowers are described as lavender. The size indicated by the collector is extraordinary for this genus and family, and may be erroneous.

Lycianthes luisana Standl., sp. nov.—Herba 30 cm. alta et ultra ut videtur sparse ramosa, caule crassiusculo villosulo vel incurvo-pilosulo, internodiis plerumque elongatis; folia majuscula petiolata membranacea, paris insigniter inaequalia, petiolo gracili usque 4 cm. longo sed vulgo multo breviore; lamina foliorum majorum elliptica vel late ovata 10–22 cm. longa 4–9.5 cm. lata breviter vel longe acuminata, basi plus minusve abrupte et saepe inaequaliter acuta vel late cuneata, supra in sicco viridis pallido-puncticulata glabra, subtus concolor puncticulata ad costam nervosque sparse incurvo-puberula vel fere omnino glabra, nervis lateralibus utroque latere ca. 6 arcuatis teneris angulo latiusculo adscendentibus; flores axillares solitarii, pedicellis gracilibus 1.2–3 cm. longis glabris; calyx glaber turbinato-campanulatus ca. 4 mm. longus et 5 mm. latus truncatus paullo infra marginem appendicibus 10 viridibus plus minusve incrassatis 3–4 mm. longis onustus; corolla rotata fere 1 cm. longa glabra patens ut videtur viridescens; antherae 6 mm. longae obtusae.—Mexico: Tamazunchale, San Luis Potosí, July, 1937, *Mary Taylor Edwards* 913 (type in Herb. Field Mus.), 520, 535, 496.

The berries are said to be bright red when ripe. The collector reports the following rather numerous local names for the plant: Chilequaqua, Flor de mariposa, Tomatillo, Arrete de la Virgen. Such a large number of distinct names from a single locality leads one to suspect that they were manufactured for the occasion by the informant or informants.

Lycianthes obliquifolia Standl., sp. nov.—Frutex ut videtur scandens ramosus, ramis subgeniculatis crassiusculis brunneo-ochraceis sparse breviter villosis, internodiis brevibus, nodis plus minusve incrassatis; folia inter minora breviter petiolata omnia subaequalia membranacea, petiolo 5–9 mm. longo sparse patenti-villoso; lamina lanceolato-ovata 5.5–10 cm. longa 2–3.5 cm. lata

solemniter inaequilatera longe angusteque acuminata, basi oblique acuta usque subrotundata, supra in sicco olivacea sparse breviter villosula, subtus concolor sparse breviter villosa, nervis lateralibus utroque latere ca. 4–5 subarcuatis angulo semirecto adscendentibus obliquis; flores axillares solitarii, pedicellis saltem fructiferis gracilibus rectis 4–5 cm. longis sparse villosis sub calycem paullo incrassatis; calyx latissime campanulatus ca. 4 mm. altus atque 5–6 mm. latus truncatus sparse subadpresse villosulus, paullo infra marginem appendicibus 10 viridibus incrassatis erectis 3–4 mm. longis onustus; bacca subglobosa ca. 6 mm. lata.—Mexico: Volcán de Tacaná, western slope, alt. 2,800 meters, March 30, 1939, *E. Matuda* 2938 (type in Herb. Field Mus.).

Physalis sonorensis Standl., sp. nov.—Herba multiramosa ut videtur fragilis, ramis dichotomis breviter dense viscido-pilosis, internodiis foliis brevioribus subteretibus interdum tantum puberulis; folia parva longissime petiolata herbacea, petiolo gracillimo vulgo 1.5–2.5 cm. longo breviter viscido-piloso; lamina late ovata, elliptico-ovata vel rotundato-ovata 1.3–2.5 cm. longa 1–2 cm. lata obtusa vel subacuta, basi late rotundata vel obtusa, interdum late cuneata vel abrupte breviterque contracta, grosse sinuato-dentata vel undulato-dentata, basin versus integra, utrinque sparse vel subdense breviter viscido-villosula; pedicelli solitarii gracillimi ad anthesin erecti ca. 2 cm. longi dense viscido-villosuli; calyx ad anthesin campanulatus 5–6 mm. longus medio 3.5 mm. latus subdense breviter viscido-villosulus, dentibus erectis oblongo-ovatis tubo paullo brevioribus acutis; corolla pallide lutea 1 cm. longa extus sparse viscido-villosula, limbo breviter lobato, lobis latissimis obtusis.—Mexico: Bachoco, 12 miles east of Cajeme, Sonora, in rocks on malpais hill, Lower Sonoran Zone, in thorn forest, February 20, 1937, *Howard Scott Gentry* 3011 (type in Herb. Field Mus.).

The species is remarkable for the greatly elongate pedicels and petioles.

Solandra brevicalyx Standl., sp. nov.—Ramuli crassi ochracei rugosi; folia modica petiolata papyracea, petiolo 1.5–2.5 cm. longo sparse laxeque stellato-tomentoso; lamina obovata vel elliptico-obovata 6–9.5 cm. longa 3.5–5.5 cm. lata, apice obtusa vel rotundata et acuminato-apiculata, basi inaequali acuta, supra sparse pilis laxis parvis ramosis conspersa, subtus densiuscule stellato-tomentosa, nervis lateralibus utroque latere ca. 6 angulo lato adscendentibus teneris subarcuatis prominulis; flores crasse ca. 7 mm. longe pedicellati magni; calyx ca. 3 cm. longus et 1 cm. latus, sparse laxeque

stellato-villosus, lobis lanceolatis vel ovatis acutis vel acuminatis tubo duplo brevioribus; corolla glabra 10–17 cm. longa, limbo 6 cm. lato vel ultra, tubo inferne gracillimo supra calycem 3 mm. lato, sursum sensim dilatato.—Mexico: Region of Jaumave, Tamaulipas, in 1932, *H. W. von Rozynski* 394 (type in Herb. Field Mus.).

Solandra brevicalyx is probably the northernmost member of this small genus. From other related species it is well distinguished by the short calyx.

Solanum boquetense Standl., sp. nov.—Herba vel frutex metralis, ramis crassis dense aculeatis, densissime pilis magnis laxis fulvis inaequalibus longissime stipitatis stellatis indutis, aculeis rectis patentibus gracilibus plus minusve compressis usque 5 mm. longis fusco-ochraceis; folia inaequalia magna petiolata herbacea, petiolo crasso foliorum majorum usque 9 cm. longo aculeato et dense pilis stipitatis tomentoso; lamina late ovali-ovata vel late elliptica usque 26 cm. longa atque 20 cm. lata vel multo minor, apice obtusa vel subacuta, basi lata breviter cordata usque subacuta, brevissime angulato-lobata vel subintegra et tantum undulata, utrinque ad costam nervosque aculeis paucis crassis remotis armata, supra densissime pilis fulvidis sat longis sessilibus vel breviter stipitatis intertextis induta, radio centrali pili aliis multo longiore, subtus pallidior densissime molliter pilis stellatis plerumque stipitatis tomentosa; flores dense in racemos breves multifloros aggregati breviter crasse pedicellati extus in omnibus partibus pilis magnis fulvis longistipitatis sat mollibus stellatim ramosis dense obtecti; calyx 7–8 mm. longus, tubo late campanulato basi obtuso, lobis erectis tubo aequilongis obtusis; corolla alba 1 cm. longa vel ultra fere ad basin lobata, segmentis lanceolato-oblongis acuminato-apiculatis intus glabris; fructus immaturus globosus densissime pilis longissimis plurilocularibus hispidus.—Panama: Boquete, Prov. Chiriquí, alt. 1,140 meters, June 28, 1938, *Mrs. M. E. Davidson* 817 (type in Herb. Field Mus.).

The plant is perhaps a relative of *S. hirtum* Vahl, one of the common, weedy species of Central America.

Solanum Davidsoniae Standl., sp. nov.—Frutex inermis 3–4.5 m. altus ubique glaber, ut videtur sat ramosus, ramis nodosis sordide ochraceis, internodiis brevibus; folia inter minora breviter petiolata membranacea paris inaequalia, petiolo crassiusculo 5–9 mm. longo; lamina in foliis majoribus oblique ovata vel oblongo-ovata 4.5–8 cm. longa 2–4 cm. lata acuta vel subito acuminata,

basi inaequali acuta vel abrupte contracta, integra, supra in sicco viridis, subtus paullo pallidior; lamina foliorum minorum paris rotundato-ovata vel rotundo-elliptica 1–3 cm. longa et saepe fere aequilata, apice obtusa vel rotundata, basi obtusa vel rotundata; flores ut videtur solitarii axillares, pedicellis 1.5 cm. longis gracilibus sursum paullo incrassatis; calyx 4 mm. longus et aequilatus basi obtusus, margine breviter obtuse dentato; corolla pallide lutea 12 mm. longa profunde lobata, lobis elliptico-ovatis obtusis.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 2,100 meters, March 2, 1938, *Mrs. M. E. Davidson* 362 (type in Herb. Field Mus.).

Solanum pluviale Standl., sp. nov.—Frutex 2–4.5 m. altus aculeatus, ramis crassis fere glabris sed pilis paucis parvis remotis sessilibus et stipitatis stellatis conspersis, internodiis elongatis, aculeis paucis patentibus usque 8 mm. longis compressis basi valde dilatatis fusco-brunneis; folia magna petiolata herbacea subaequalia, petiolo usque 7.5 cm. longo aculeis paucis magnis armato sparse pilis breviter stipitatis parvis rigidis consperso; lamina 16–28 cm. longa et 15–25 cm. lata ad medium vel brevius pinnato-lobata utrinque ad costam nervosque aculeis paucis patentibus rectis magnis armata, supra aspera sat dense pilis minutis rigidis pauciramosis fulvidis sessilibus conspersa, subtus fere concolor similiter sed densius induta, lobis laminae lanceolato-oblongis vel interdum deltoideis acutis vel acuminatis patentibus vel obliquis; flores in cymas multifloras densas pedunculatas dispositi pedicellati, pedicellis dense rigide pilis brevibus fulvidis eglandulosis indutis; calyx dense stellato-hispidulus, tubo late campanulato ca. 3 mm. longo et paullo latiore 5-lobato, lobis remotis sinubus late rotundatis segregatis oblongo-linearibus erectis tubo aequilongis; corolla alba ca. 1 cm. longa extus densissime pilis parvis rigidis stellatis sessilibus conspersa, fere ad basin 5-lobata, segmentis lanceolato-oblongis acutiusculis intus glabris; antherae angustae ca. 6.5 mm. longae sursum sensim attenuatae.—Panama: In rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, January 24, 1938, *Mrs. M. E. Davidson* 189 (type in Herb. Field Mus.).

Noteworthy for the stout, glabrate branches, and for the large, deeply pinnatifid, green, very rough leaves.

Solanum salsum Standl., sp. nov.—Frutex aculeatus ca. metralis, ut videtur dense ramosus, ramis crassiusculis teretibus densissime pilis stellatis sessilibus vel breviter stipitatis brunnescentibus indutis, internodiis brevibus, aculeis sat numerosis vel

interdum paucis rectis patentibus lateraliter subcompressis 5–6 mm. longis basi valde dilatatis; folia inter minora petiolata herbacea, petiolo 6–17 mm. longo dense stellato-tomentoso; lamina ovata, oblongo-ovata vel oblongo-ovalis vulgo 3.5–7 cm. longa et 2–4 cm. lata apice obtusa vel rotundata, basi rotundata vel late obtusa et vulgo inaequalis, uno latere breviore, integra vel subundulata, supra dense pilis stellatis sessilibus rigidis conspersa, costa venisque impressis, subtus paullo pallidior brunneo-ochracea densissime pilis intertextis sessilibus stellatis tomentosa, costa crassiuscula prominente, nervis lateralibus utroque latere ca. 6 angulo semirecto adscendentibus; inflorescentiae umbelliformes vel breviter racemosae plerumque 2–7-florae vix ultra 6 mm. longe pedunculatae, pedicellis gracilibus vulgo 1–2.5 cm. longis pilis stipitatis stellatis dense indutis; calyx ca. 6 mm. longus extus dense stellato-tomentosus, pilis sessilibus vel substipitatis, fere ad basin lobatus, segmentis lanceolato-oblongis acutiusculis in statu fructifero paullo accrescentibus et usque 9 mm. longis; corolla alba ca. 8 mm. longa extus dense stellato-tomentosa stellatim patens, segmentis fere lineari-lanceolatis attenuato-acutis; antherae fere 5 mm. longae sursum paullo attenuatae; bacca globosa glabra apice rotundata 8–9 mm. diam.—Mexico: Salina Cruz, Oaxaca, on rocky slope above the seashore, June, 1937, *Llewelyn Williams* 9706 (type in Herb. Field Mus.); edge of road in low forest, *Williams* 9686; side of road, in sandy soil near the seashore, *Williams* 9703.

SCROPHULARIACEAE

Buchnera leiantha Standl., sp. nov.—Herba simplex erecta stricta 25–30 cm. alta, caule gracili sed rigido bifariam incurvo-puberulo, internodiis foliis duplo brevioribus; folia numerosa anguste linearia vel fere subulata erecta vel adpressa sessilia plerumque 1.5–3 cm. longa ad margines arcte revolutos scabrella obtusa 1-nervia; flores spicati, spicis dense paucifloris 2.5–4 cm. longis, bracteis lanceolatis cymbiformibus acuminatis ciliatis dimidium calycis aequantibus arcte adpressis; calyx glaber 8 mm. longus subtubulosus sursum paullo dilatatus, dentibus anguste triangularibus subulato-acuminatis erectis 1.5 mm. longis; corolla ut dicitur alba vel purpurascens ca. 1 cm. longa extus glabra, lobis rotundato-ellipticis 3 mm. longis.—Panama: Boquete, Prov. Chiriquí, alt. 1,350 meters, an herb 10–25 cm. high, January 11, 1939, *Mrs. M. E. Terry* 1273 (type in Herb. Field Mus.).

From other *Buchnera* material that I have seen from Central America, this is readily separable by the glabrous flowers.

Castilleja bella Standl., sp. nov.—Herba nana perennis dense caespitosa 6–10 cm. alta, caulibus abbreviatis simplicibus saepe fere nullis foliis basalibus occultis, sparse laxeque longipilosis vel villosis; folia radicalia numerosissima 3–6.5 cm. longa basi 4–7 mm. lata linearia longissime attenuata, saepissime falcata et incurva vel subtorta, sparse laxe pilosa vel fere glabra ca. 6-nervia; racemi laxe pauciflori, rhachi laxe albido-villosa; bracteae ca. 2 cm. longae supra basin purpureo-rubrae, plerumque fere ad medium trilobae, lobo medio oblongo obtusissimo, interdum utroque latere breviter lobulato, lobis lateralibus fere aequilongis linearibus obtusis, extus praesertim ad nervos longivillosae vel puberulae; calyx fere 2.5 cm. longus vix apice 4 mm. latus dense albo-villosus bilobus, lobis 5 mm. longis obtusissimis purpureo-rubris dense minute puberulis; corolla calyce paullo longior 2.5 cm. longa vel ultra, tubo hyalino glabro, galea 1 cm. longa recta viridi superne dorso dense breviter pilosula rubro-marginata, labio inferiore viridi vix 1.5 mm. longo.—Mexico: State of Nuevo León, abundant in meadows above and below timber line, peak of Cerro Potosí, Municipio de Galeana, July 21, 1935, *C. H. Mueller* 2249 (type in Herb. Field Mus.). Abundant on rocky alpine meadows of peak of Cerro Potosí, alt. 3,750 meters, July 18, 1938, *Richard A. Schneider* 935.

Mr. Schneider has supplied the following notes: "Bracts brilliant red. A very conspicuous plant, abundant on the treeless peak, and extending down (equally abundant) into the pine forest and in grassy openings for over 300 meters. In exposed places only 2.5–5 cm. high. In the shelter of the timber at times reaching a height of 12 cm., but even in such places most of the plants are low. One yellow-flowered individual was collected." Probably a local, alpine species, noteworthy for its low, dense habit, the stems bearing flowers almost or quite to their bases, which are hidden by the very numerous long, twisted and curled basal leaves.

GESNERIACEAE

Columnea Muenscheri Standl., sp. nov.—Frutex epiphyticus, ramo unico viso ca. 30 cm. longo crasso cortice ferrugineo obtecto, internodiis brevibus 1–1.5 cm. tantum longis; folia subdensa breviter petiolata subcoriacea, petiolo crassiusculo 3–5 mm. longo; lamina lanceolato-linearis 5.5–7.5 cm. longa 5–8 mm. lata longe attenuato-acuminata, basin versus sensim attenuata, 1-nervia, supra in sicco cinereo-viridis glabra, costa impressa, subtus subsparse pilis longis laxis sericea, costa gracili elevata rubescente; flores axillares solitarii, bracteis lanceolato-ovatis 6–8 mm. longis acuminatis laxe sericeis,

pedicello ca. 1 cm. longo laxe adpresso-piloso; calyx 2 cm. longus extus subsparse laxe adpresso-pilosus fere ad basin lobatus, lobis lineari-lanceolatis longissime attenuatis intus ad costam breviter pilosis; corolla laete rubra 6.5 cm. longa extus pilis longis patentibus multilocularibus rubris villosa, tubo 3.5 cm. longo ad orem 1 cm. lato, limbo insigniter bilabiato, lobo postico fere 3 cm. longo atque expanso 2 cm. lato apice subtruncato, labio inferiore profunde trilobo, lobis e basi lata ovato-deltoideo-acuminatis.—Guatemala: On pine ridge, Finca Moca, Dept. Suchitepéquez, alt. 990 meters, May 4, 1937, *W. C. Muenscher* 12449 (type in Herb. Field Mus.).

Evidently a handsome and showy plant, marked by the very large corollas and long, narrow leaves.

Kohleria filisepala Standl., sp. nov.—Herba ut videtur erecta, caule subgracili dense brunnescenti-villoso, internodiis superioribus brevibus; folia modica petiolata herbacea, petiolo gracili 2.5–5.5 cm. longo dense villoso; lamina elliptico-lanceolata vel lanceolato-oblonga 10–14 cm. longa 3–5.5 cm. lata anguste longiacuminata, basi acuta, utrinque sat dense, subtus paullo densius, pilis longis multilocularibus villosa, nervis lateralibus obliquis angulo semirecto vel angustiore adscendentibus fere rectis utroque latere ca. 8; inflorescentiae axillares cymose ca. 5-florae graciliter 3–7 cm. longe pedunculatae folia interdum fere aequantes, pedicellis brevibus vix ad 3 mm. longis; calycis tubus anguste turbinatus ca. 3 mm. longus basi attenuatus, lobis liberis deciduis anguste linearibus et fere filiformibus inaequalibus 12–24 mm. longis dense villosis; corolla extus sparse villosa, tubo ca. 4 cm. longo e basi ad faucem ca. 7 mm. latum sensim dilatato, lobis ovato-triangularibus patentibus acutis 7–8 mm. longis intus puberulis; discus lobatus glaber, stylo filiformi 4.5 cm. longo; antherae lineares 8 mm. longae.—Mexico: Mount Ovando, Chiapas, December 16, 1936, *E. Matuda* 574 (type in Herb. Field Mus.).

A remarkable plant, especially noteworthy because of the exceedingly narrow and greatly elongate calyx lobes.

RUBIACEAE

Alibertia dolichophylla Standl., sp. nov.—Arbuscula, ramulis crassiusculis nodosis ochraceis rimosis sparse puberulis vel glabratis, internodiis abbreviatis; stipulae 1 cm. longae obtusae; folia majuscula petiolata pergamentacea, petiolo ca. 2 cm. longo; lamina anguste oblanceolato-oblonga ca. 21 cm. longa et 5–6 cm. lata acuminata, basin angustam versus sensim longiattenuata, glabra vel glabrata, in sicco fusca, supra sublucida, costa gracillima subtus prominente,

nervis lateralibus utroque latere ca. 9 obliquis angulo latiusculo adscendentibus teneris; inflorescentia mascula terminalis 1 cm. longe pedunculata 7-flora cymosa et capituliformis, pedicellis brevissimis vel nullis crassis minute subadpresso-pilosulis; hypanthium cum calyce campanulatum 6 mm. longum 4 mm. latum basi obtusum minute adpresso-pilosulum, calycis dentibus triangularibus obtusis 1 mm. longis erectis; corolla alba in alabastro 1.5 cm. longa, tubo 3.5 mm. lato dense retrorso-sericeo, lobis tubo aequilongis angustis obtusis breviter denseque antrorso-sericeis.—Brazil: Juruty Velho, civ. Pará, silva terris altis argillosis ad meridiem lacus, July 29, 1927, *A. Ducke* 22916 (type in Herb. Field Mus.).

Among the somewhat numerous Brazilian species of *Alibertia*, the present Amazonian one is noteworthy for its relatively narrow and elongate leaves.

Blepharidium mexicanum Standl., sp. nov.—Arbor 5–6-metralis fere glabra, ramulis crassis saltem in sicco complanatis et fuscis glabris, internodiis 4–6 cm. longis; stipulae ferrugineae tenues lanceolato-triangulares 2.5 cm. longae et basi 12 mm. latae subulato-attenuatae glabrae; folia magna petiolata membranacea, petiolo 2.5–3.5 cm. longo supra sparse piloso; lamina elliptica 19–26 cm. longa 9–14 cm. lata acuta vel breviter obtuseque acuminata, basi obtusa vel rotundata, supra ad costam nervosque sparse pilosa, aliter glabra, subtus paullo pallidior in axillis nervorum albo-barbata, sparsissime fere ubique breviter pilosa vel glabrata, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 13 angulo lato adscendentibus arcuatis pallidis teneris prominentibus, venis laxe reticulatis; inflorescentiae axillares solitariae 9–17 cm. longe pedunculatae, simplices et flores 3 vel plures umbellatos gerentes vel breviter cymosae vel subracemosae, foliaceo-bracteatae, bracteis superioribus plerumque elliptico-oblongis et 5–6 mm. longis, inferioribus multo majoribus, pedicellis interdum usque 2 cm. longis, flore centrali cymulae sessili; hypanthium obovoideum glabrum 4 mm. longum basi acutatum; calyx 4 mm. longus et 7 mm. latus glaber, lobis brevibus latissimis convolutis apice late rotundatis ciliolatis; corolla alba glabra, tubo ca. 4 cm. longo ad faucem 5 mm. lato sursum vix dilatato, lobis ovalibus apice rotundatis ca. 1 cm. longis patentibus.—In advanced forest, "Rvina," Palenque, Chiapas, July, 1939, *E. Matuda* 3670 (type in Herb. Field Mus.).

The genus *Blepharidium*, with a single species, *B. guatemalense*, was published by the writer in 1918 (Journ. Wash. Acad. 8: 59), being based upon a single collection made by H. Pittier along

the Saklak River below Secanquím, Alta Verapaz, Guatemala. Further material of the same plant, a shrub 2.5–5.5 meters high, was collected by the writer in 1922 on the hills above Quiriguá, Dept. Izabal, Guatemala, and the following recent collections also are in the Herbarium of Field Museum: Near Quiriguá, alt. about 150 m., April, 1939, *Standley* 72473, 72273, 72275, 72472. In the original description the fruit was not described, and no perfect fruit is now available. It is, however, a septicidal and partially loculicidal capsule 1.5–2 cm. long, obtuse, acutish at the base, hard and somewhat woody. The shrub is fairly common on the hot and rather dry hills overlooking Quiriguá, growing among other scrubby vegetation, such as *Curatella*, *Byrsonima*, etc.

It was a surprise to receive material of evidently the same genus from the State of Chiapas. At first it was assumed that it belonged to the species described from the north coast of Guatemala, but closer study shows differences that force one to believe that two species are represented. As compared with the Chiapas plant, the Guatemalan one has much larger flowers, the corolla tube being 6 cm. long. Moreover, in *B. guatemalense* the only leaf pubescence consists of tufts of hairs in the axils of the primary nerves, while in *B. mexicanum* these hair tufts are present and there are also sparse hairs scattered here and there over all the lower leaf surface.

Borreria Bradei Standl. Field Mus. Bot. 11: 184. 1936.—When described, this species was based upon a single collection, *Brade* 9953 from Therezopolis, Pedra Chapadão, State of Rio de Janeiro, Brazil. The following collections have been received more recently: Sta. Magdalena, Alto do Desengano, alt. 2,000 meters, March, 1934, *Santos Lima & Brade* 13354 (Herb. Inst. Biol. Veg. 24607). Serra dos Orgãos, alt. 2,000 meters, May, 1931, *A. C. Brade* 10800 (Herb. Mus. Nac. Rio 24308). Sta. M. Magdalena, Serra da Furquilha, Rio de Janeiro, alt. 1,700 meters, March, 1935, *Santos Lima & Brade* 27682.

Borreria evenia Standl., sp. nov.—Herba ut videtur perennis erecta(?) ramosa, caulibus crassiusculis fusco-ferrugineis glabris nodosis 9 cm. longis, internodiis abbreviatis; stipularum setae incrassatae et herbaceae 2–4 mm. longae; folia parva crasse herbacea subsessilia anguste lanceolato-oblonga 1.5–2.3 cm. longa 3–7 mm. lata apicem obtusum vel acutiusculum versus angustata, basi subacuta vel obtusa et contracta, glabra, costa supra anguste impressa, subtus prominula, nervis venisque obsoletis, subtus minute fusco-puncticulata; flores parvi dense capitati, capitulis terminalibus

sessilibus ca. 8 mm. latis basi bracteis paucis foliis conformibus fulcratis; hypanthium glabrum oblongum; sepala 2 erecta triangulari-oblonga ca. 0.8 mm. longa subobtusa; corolla glabra 1.5 mm. longa vel paullo ultra, lobis oblongo-ovatis obtusis tubo brevi multo longioribus; stamina breviter exserta; fructus cocci glabri angusti 1.8 mm. longi.—Trinidad Island (a possession of Brazil), *B. Lobos* 4875 (type in Herb. Field Mus., received from the Museu Nacional of Rio de Janeiro).

Borreria nana Standl., sp. nov.—Herba ut videtur perennis erecta(?) sparse ramosa, caulibus crassiusculis angulatis glabris 10–12 cm. longis, internodiis foliis longioribus vel brevioribus; stipularum setae suberectae rigidae viridescentes usque 4 mm. longae; folia sessilia vel breviter petiolata rigide herbacea oblonga, oblongo-lanceolata vel ovato-oblonga 2–3 cm. longa 7–12 mm. lata in sicco laete lutescentia, acuta vel obtusa, basi cuneato-acuta vel subobtusa, utrinque glabra, costa venisque supra anguste impressis, costa subtus prominente crassa, nervis lateralibus utroque latere ca. 3 prominentibus angulo angusto adscendentibus; flores glabri dense capitati, capitulis terminalibus et axillaribus sessilibus densissime multifloris 1 cm. latis vel paullo ultra, basi bracteis 2 vel pluribus foliis conformibus fulcratis; hypanthium turbinatum paullo ultra 1 mm. longum; sepala 4 triangulari-oblonga 3–4 mm. longa subaequalia viridescentia acuta vel subacuta; corolla ca. 5 mm. longa caerulea vel purpurea, tubo superne late dilatato, lobis patulis triangulari-ovatis intus villosis; stamina exserta; fructus cocci 3 mm. longi septicide dehiscentes; semina nigra 2.5 mm. longa minute transverse rugulosa utrinque rotundatis, facie interiore anguste sulcata.—Brazil (State of São Paulo): Jabaquara, December, 1914, *A. C. Brade* 7056 (Herb. Inst. Biol. 6802; type in Herb. Field Mus.). Santo Amaro, December, 1906, *A. Usteri* (Herb. Inst. Biol. 11831). S. Caetanho, October, 1922, *A. Gehrt* 8045.

The collections cited were determined by Krause as *Borreria asclepiadea* Cham. & Schlecht., which Schumann in *Flora Brasiliensis* reduced to synonymy under *B. Poaya* (St. Hil.) DC. As described, *B. asclepiadea* differs from the São Paulo plant in having flowers about twice as large, and probably Schumann was correct in his disposition of that name.

Chione chiapasensis Standl., sp. nov.—Arbor 8-metralis omnino glabra, trunco 35 cm. diam., ramulis in sicco fuscis ad nodos aliquanto compressis, internodiis solemniter elongatis; stipulae 5–6

mm. longae oblongo-ovatae 5–6 mm. longae acutae deciduae; folia petiolata crasse membranacea vel subcoriacea, petiolo 1–2.3 cm. longo; lamina late elliptica usque elliptico-oblonga 12–15 cm. longa 4.5–7 cm. lata subito breviterque acuminata, acumine obtuso, basi acuta usque acuminata, interdum subito acutata, supra in sicco fusca, subtus pallidior et aliquanto brunnescens, costa gracili prominente, nervis lateralibus utroque latere ca. 7 angulo semirecto adscendentibus tenerrimis subarcuatis, venulis obsoletis; inflorescentia terminalis cymoso-corymbosa ca. 6 cm. longa et 7 cm. lata 7 cm. longe pedunculata, laxe subpauciflora, pedicellis fructiferis usque 4 mm. longis; fructus teres 2-locularis ambitu anguste oblongus, basi et apice acutiusculus 15–18 mm. longus 5 mm. latus lucidus calyce parvo persistente coronatus; calyx paullo ultra 1 mm. altus breviter obtuse dentatus.—Mexico: River side in virgin forest, "Rvina," Palenque, Chiapas, July, 1939, *E. Matuda* 3675 (type in Herb. Field Mus.).

The fruits are much larger than those of any other species of the genus. Those of *C. mexicana* Standl., the only other species known from Mexico, are only 1 cm. long.

Chione costaricensis Standl., sp. nov.—Arbor 7-metralis omnino glabra, ramis gracilibus teretibus ochraceis ad nodos aliquanto compressis, internodiis brevibus; stipulae deciduae 4–5 mm. longae triangulari-ovatae acutae; folia petiolata crasse membranacea, petiolo 1–1.5 cm. longo; lamina elliptico-ovata usque lanceolato-oblonga 6.5–14.5 cm. longa 3.5–7 cm. lata breviter acuminata vel acutata, acumine obtuso, basi acutiuscula usque rotundata et subito contracta, supra in sicco fusca, subtus paullo pallidior, costa prominente, nervis lateralibus utroque latere ca. 9 angulo latiusculo abeuntibus subarcuatis tenerrimis, venulis inconspicuis laxe reticulatis; inflorescentia terminalis cymoso-corymbosa ca. 4 cm. longa atque 6 cm. lata laxe multiflora 3 cm. longe pedunculata, basi foliaceo-bracteata, bracteis minutis, pedicellis crassis usque 14 mm. longis prope medium bracteatis; hypanthium clavatum 3 mm. longum basin versus sensim attenuatum; calyx late campanulatus 5 mm. latus vix ultra 2 mm. altus, margine breviter lobato, lobis rotundatis; corollae tubus 5–6 mm. longus et 4 mm. latus sursum paullo dilatatus, lobis 4 rotundato-ellipticis apice rotundatis tubo fere aequilongis intus glabris; stamina exserta, antheris anguste oblongis 3.5 mm. longis.—Costa Rica: Villa Quesada, Cantón de San Carlos, Prov. Alajuela, alt. 825 meters, edge of Caribbean rain forest, March 14, 1939, *Austin Smith* F1778 (type in Herb. Field Mus.).

This is the first species of *Chione* to be reported from Central America. It is similar to the Mexican *C. mexicana* Standl., which differs in having smaller, short-pedicellate flowers and relatively somewhat narrower leaves.

Chomelia triantha Standl., sp. nov.—Frutex gracilis 2-metralis, ramis subteretibus nigrescentibus nodosis, internodiis abbreviatis, novellis ferrugineis hirtellis; stipulae persistentes e basi triangulari longe subulato-attenuatae 4.5 mm. longae; folia parva breviter petiolata crasse membranacea, petiolo crassiusculo 3–6 mm. longo sparse strigilloso; lamina lanceolato-oblonga 4.5–6.5 cm. longa 1.3–2.5 cm. lata acuta vel longiuscule acuminata, basi obtusa vel acuta, supra viridis lucida glabra, costa prominente, subtus pallidior brunnescens, in axillis nervorum sparse breviter albo-barbata, aliter glabra vel glabrata, costa gracillima prominente, nervis lateralibus utroque latere ca. 6 angulo angusto adscendentibus tenerrimis prominulis, venulis obscuris laxe reticulatis; inflorescentiae axillares solitariae triflorae, pedunculo fere filiformi 1.7–3.5 cm. longo fere glabro, floribus sessilibus, bracteis filiformibus 4–5 mm. longis; hypanthium anguste oblongum 2.5 mm. longum dense albido-strigosum, calycis lobis subulatis viridescentibus erectis 3 mm. longis; corolla alba extus sparse strigosa ca. 22 mm. longa, tubo gracillimo vix ultra 1 mm. lato, lobis ovato-oblongis patentibus cuspidatis 5 mm. longis intus glabris, dorso paullo infra apicem appendice subulato ca. 0.5 mm. longo auctis; stylus breviter exsertus.—Colombia: Departamento de Boyacá, in thickets, Orocué, alt. 140 meters, May 12, 1939, *Oscar Haught* 2822 (type in Herb. Field Mus.).

Crusea Gentryi Standl., sp. nov.—Herba erecta annua(?) gracilis sparse ramosa, 35 cm. alta vel ultra, caule paullo ultra 1 mm. crasso subacute tetragono glabro, internodiis foliis multo longioribus; stipularum setae utroque latere ca. 5 subulatae usque 3 mm. longae; folia parva brevissime petiolata membranacea anguste lanceolata 2–3.5 cm. longa 5–8 mm. lata longe angusteque attenuata, basi obtusa subito contracta, supra in sicco cinereo-viridia enervia scaberula, subtus pallidiora glabra, costa tenui prominente, nervis lateralibus utroque latere 3–4; capitula densissime multiflora fere 2 cm. lata longissime pedunculata, basi bracteis pluribus foliis conformibus et usque 2.5 cm. longis fulcrata; flores tetrameri, hypanthio glabro; calycis lobi lineari-filiformes 5 mm. longi basi paullo dilatati scaberulo-ciliati patuli; corolla extus minute puberula, tubo gracili 5 mm. longo sursum subdilatato, lobis 4 lineari-oblongis ca. 4 mm. longis patentibus acutiusculis intus glabris; stamina longiexserta, fila-

mentis tenerrimis, antheris oblongis 1 mm. longis; fructus cocci ovales 2 mm. longi utrinque obtusi laeves glabri.—Mexico: Quiricoba, Distrito de Alamos, Sonora, November 12, 1933, *Howard Scott Gentry* 766M (type in Herb. Field Mus.).

Diodia Mello-Barretoi Standl., sp. nov.—Herbacea vel suffruticosa ut videtur erecta rigida ramosa stricta 40 cm. alta vel ultra, caulibus crassis nigrescentibus dense scaberulis, dense foliatis, internodiis foliis multo brevioribus, nodis plus minusve incrassatis; stipularum setae 1–5 mm. longae rigidae scaberulae; folia parva oblique adscendentia sessilia rigide coriacea lanceolata vel linearilanceolata 4–14 mm. longa basi 2–5 mm. lata apice subulatomucronata cymbiformia enervia lucida glabra, supra late concava, subtus acute carinata vel rotundato-convexa, ad margines cartilagineos minute scaberula; flores in axillis sessiles solitarii, hypanthio dense scaberulo, dentibus calycis triangularibus erectis 1 mm. longis vel ultra acutis vel acuminatis; corolla extus furfuraceo-puberula ca. 5 mm. longa, tubo superne late dilatato, lobis triangulari-ovatis tubo duplo brevioribus acutiusculis intus glabris; stamina breviter exserta, antheris oblongis 1.2 mm. longis; fructus non visus.—Brazil: Campo, Sierra do Cipó, km. 116, Municipio Santa Luzia, January 13, 1934, *H. Mello Barreto* 3541 (Herb. Jard. Bot. Bello Horizonte 11483; type in Herb. Field Mus.); February 2, 1938, *Mello Barreto* 9274 (Herb. Jard. Bot. Bello Horizonte 26167).

The plant differs conspicuously from other species in its strict, erect, branched habit, the conspicuously nodose stems, and especially in the small, suberect, rigid, cymbiform leaves, in which the costa is either conspicuous and keel-like or quite obsolete.

Galium Cuatrecasasii Standl., sp. nov.—Herba repens vel adscendens sat dense ramosa, ramis gracillimis intertextis usque 30 cm. longis vel ultra ad angulos minute scaberulis, internodiis foliis plus quam duplo longioribus; folia plerumque 6-verticillata oblonga vel superiora paullo latiora, plerumque 3–5 mm. longa obtusa vix apiculata basin versus paullo angustata atque fere sessilia, 1-nervia, ad costam marginesque scaberulo-ciliata; flores parvi in cymulas trifloras terminales solitarias vel ternatas dispositi, cymulis vulgo basi foliatis et foliis fere occultis, pedunculis florum lateralium folia subaequantibus glabris; corolla tetramera paullo ultra 1 mm. longa glabra, lobis late ovatis obtusis; fructus baccatus glaber subglobosus 1.5 mm. longus apice late rotundatus.—Colombia: Sabana de Bogotá, Dept. Cundinamarca, alt. 2,600 meters, December

29, 1938, *José Cuatrecasas* 468 (type in U. S. Nat. Herb.; fragment in Herb. Field Mus.).

It is somewhat surprising to receive from the not exactly unexplored Bogotá region a *Galium* quite unlike the few other species known from Colombia. This one, however, does not approach any of those known from Colombia, nor has it close relatives elsewhere in the northern Andes.

Galium juniperinum Standl., sp. nov.—Herbacea vel suffruticosa multiramosa, caulibus rigidis gracilibus pallidis 60 cm. longis vel ultra dense scaberulis, internodiis plerumque foliis longioribus; folia parva quaternata adscendentia vel subadpressa, interdum subpatula, subulata rigida 2–4 mm. longa sessilia, apice spinoso-subulata, 1-nervia glabra, marginibus minute scaberulis; cymulae axillares solitariae vulgo triflorae inconspicuae saepius foliis vix longiores breviter pedunculatae, floribus breviter pedicellatis, bracteis triangulari-subulatis pedicellis brevioribus; corolla luteo-viridis 4-loba 2 mm. lata, lobis ovali-ellipticis obtusissimis; fructus ut videtur succosus dense vel sparse setulis rectis pallidis patulis obtectus.—Mexico: Earth wall of canyon, Galeana, Nuevo León, alt. 1,620 meters, August 4, 1939, *V. H. Chase* 7772 (type in Herb. Field Mus.).

The present plant is one of a large collection obtained in Mexico during the summer of 1939 by the Mexican Biological Expedition of Students of the University of Illinois. It is an unusually distinct species, in habit strongly resembling certain species of *Relbunium*, to which genus it is certain to be referred at first glance. The setulose fruit and, of course, the absence of an involucre at the base of the flower necessitate its reference to *Galium*.

Gonzalagunia Rojasii Standl., sp. nov.—Arbor 6-metralis, ramulis crassis subteretibus ochraceis vel pallide brunnescentibus nodosis, novellis dense pilis longis rigidulis pallidis hispidis, internodiis saepe valde elongatis; stipulae e basi late triangulari acuminatae usque 8 mm. longae persistentes; folia magna breviter petiolata membranacea, petiolo crassiusculo 1–2 cm. longo hispido; lamina elliptica bel obovato-elliptica 11–20 cm. longa 5–9.5 cm. lata acuta vel saepius breviter acuminata, basi acuta vel interdum longiuscule angustata et plus minusve decurrens, supra viridis sparse pilis brevibus hispidula, subtus vix pallidior ubique ad nervos venasque breviter adpresso-pilosula, costa gracili elevata, nervis lateralibus utroque latere ca. 9 angulo latiusculo adscendentibus arcuatis

tenerrimis marginem fere attingentibus; inflorescentia spiciformis pedunculata 16–21 cm. longa, floribus in cymulas parvas paucifloras sessiles dispositis, rhachi crassa hispida, cymulis numerosis remote insertis, bracteis minutis subulatis vel anguste triangularibus inconspicuis; hypanthium latum basi rotundatum 1.5 mm. longum sparse puberulum vel fere glabrum, calyce 1 mm. alto brevissime remote 4-dentato; corolla pallide viridescenti-lutea extus sparse minute strigillosa, tubo gracili tereti 6 mm. longo, lobis ovato-rotundatis vix 2.5 mm. longis; bacca 4-locularis depresso-globosa 4–5 mm. lata.—Guatemala: Damp forest, El Muro, below Santa María de Jesús, Dept. Quezaltenango, alt. about 1,200 meters, March 1, 1939, *Paul C. Standley* 67145 (type in Herb. Field Mus.). Dense damp forest, Finca Pireneos, below Santa María de Jesús, alt. 1,350 meters, March 11, 1939, *Standley* 68344.

Local name, Cachito de venado. The species is well marked by the dense pubescence of very long, stiff, spreading hairs that covers the branches. It is named for Professor Ulises Rojas, Director of the Jardín Botánico of Guatemala, in whose company and as whose guest the second collection was made, at Finca Pireneos. Upon this and other days Professor Rojas was a most competent and congenial guide to some of the most interesting regions of the Guatemalan Occidente.

Hamelia barbata Standl., sp. nov.—Frutex vel arbuscula 3–7.5 m. alta, ramis gracilibus viridibus minute pallide lenticellatis glabris, internodiis brevibus; stipulae triangulari-acuminatae 3–4 mm. longae; folia opposita petiolata membranacea, petiolo gracili glabro 1.2–2.5 cm. longo; lamina oblongo-oblanceolata vel oblongo-elliptica 14–20 cm. longa 4.5–6 cm. lata subito longe angusteque acuminata, basin versus angustata, basi ipsa acuta vel acuminata, supra viridis glabra, subtus fere concolor in axillis nervorum dense pallide villoso-barbata, aliter glabra, costa gracillima prominente, nervis lateralibus utroque latere ca. 10 tenerrimis obliquis subarcuatis angulo latiusculo adscendentibus; inflorescentia terminalis cymoso-corymbosa breviter pedunculata laxe multiflora ca. 4.5 cm. longa et 7 cm. lata, floribus secundis glabris, pedicellis gracilibus 2–3 mm. longis; hypanthium oblongo-turbinatum 3 mm. longum, calycis dentibus vix ultra 0.5 mm. longis late deltoideis vel rotundatis et apiculatis; discus valde elevatus 1.3 mm. altus; corolla aurantiaca tubulosa vel superne dilatata et usque 5 mm. lata, ca. 18 mm. longa, lobis latissimis ca. 2 mm. longis; stamina inclusa.—Guatemala: Wet forest, Finca Monterrey, south slope of Volcán de Fuego,

Dept. Escuintla, alt. about 1,200 meters, February 5, 1939, *Paul C. Standley* 64569 (type in Herb. Field Mus.). Panajabal, Dept. Chimaltenango, 1,350 meters, *Standley* 62113. In forest, Finca Moca, Dept. Suchitepéquez, alt. 810 meters, January, 1935, *Skutch* 2058.

The only closely related species is *Hamelia longipes* Standl., of the Atlantic lowlands of Guatemala and Honduras, which differs in having much longer pedicels, and lacks the barbate nerve axils characteristic of *H. barbata.*

Hamelia Haughtii Standl., sp. nov.—Frutex vel arbuscula, ramulis gracilibus dense pilis longiusculis patulis pilosis, internodiis elongatis; stipulae lineari-attenuatae 8–10 mm. longae pilosae; folia magna longipetiolata membranacea opposita, petiolo gracili 3.5–6 cm. longo patule piloso; lamina oblongo-ovata vel lanceolato-oblonga 16–23 cm. longa 6–8.5 cm. lata longiacuminata, basi acuta et interdum subcontracta, supra viridis, ad costam pilosa, aliter glabra, subtus ubique dense pilis rigidulis fulvis vel brunnescentibus pilosa, nervis lateralibus utroque latere ca. 11 arcuatis tenerrimis; inflorescentia terminalis cymoso-corymbosa ca. 5 cm. longa atque 10 cm. lata 3 cm. longe pedunculata, laxe multiflora, ramis secundifloris, floribus arcte sessilibus; hypanthium 3 mm. longum oblongum basi rotundatum, dense ferrugineo-pilosum, calycis dentibus brevissimis triangularibus; corolla laete lutea extus sparse minute pilosula, tubo 2 cm. longo sursum sensim dilatato fauce 6 mm. lato, lobis rotundo-obovatis ca. 5 mm. longis apice late rotundatis intus sparse puberulis.—Colombia: Puerto Araujo, Dept. Santander, in moist, lowland forest, April 15, 1937, *Oscar Haught* 2176 (type in Herb. Field Mus.); in swamp forest, June 6, 1935, *Haught* 1751.

The principal distinctive characters are the large corollas and the abundant, long, soft pubescence of the leaves and inflorescence.

Hoffmannia laxa Standl., sp. nov.—Frutex 2-metralis ut videtur omnino glaber, ramis teretibus in sicco fuscis, internodiis plerumque 3–6 cm. longis; folia modica longipetiolata tenuiter membranacea, petiolo gracillimo 4–5 cm. longo superne longe angusteque marginato; lamina elliptica vel late ovato-elliptica 12–16 cm. longa 6.5–8 cm. lata sensim vel subabrupte acuminata, basi abrupte cuneato-acuta vel acuminata et longe anguste decurrens, supra intense viridis, costa venisque manifestis sed vix elevatis, subtus multo pallidior, costa gracili prominente, nervis lateralibus utroque latere ca. 9 arcuatis angulo lato saepe recto divergentibus teneris prominulis, venis obscuris et laxe reticulatis; inflorescentiae

numerosae axillares fasciculatae laxissime pauciflorae petiolis subaequilongae gracillime ca. 2.5 cm. longe pedunculatae, pedicellis fere filiformibus 4–7 mm. longis; hypanthium obovoideum fere 2 mm. longum basi obtusum, calycis dentibus vix 0.6 mm. longis late triangularibus acutis erectis; corolla in alabastro glabra 4 mm. longa acuta vel acutiuscula, tubo ut videtur brevissimo, lobis tubo duplo longioribus.—Costa Rica: Sucre, Cantón de San Carlos, Prov. Alajuela, in Caribbean rain forest, alt. 1,000 meters, March 30, 1939, *Austin Smith* F1851 (type in Herb. Field Mus.).

"A shrub with several erect stems, the bark dull, dark green. Leaves very dark green, faintly shining above, the petiole sometimes dull pink, the under surface pale. Flowers pale green, the peduncle pale carmine." The species is noteworthy for the extremely lax, few-flowered inflorescences with elongate pedicels.

Hoffmannia Wilsonii Standl., sp. nov.—Frutex 2–3-metralis, ramis gracilibus teretibus ochraceis rimosis, internodiis plerumque elongatis, novellis subdense breviter sordido-villosulis; stipulae vix ultra 2 mm. longae, e basi late triangulari acuminatae; folia modica longipetiolata tenuiter membranacea, petiolo gracili 3–5.5 cm. longo breviter villosulo; lamina ovato-elliptica vel oblongo-elliptica 12–18 cm. longa 6–8 cm. lata subabrupte longiacuminata, basi acuta vel subobtusa, supra viridis glabra, subtus paullo pallidior ad nervos venasque adpresso-pilosa, nervis lateralibus utroque latere ca. 8 angulo lato adscendentibus arcuatis, venis laxe reticulatis; flores in axillis pauci dense cymoso-aggregati sessiles vel breviter pedicellati, cymulis sessilibus vel subsessilibus; hypanthium oblongo-turbinatum ca. 2 mm. longum glabrum vel sparsissime pilosulum, calycis dentibus vix 1 mm. longis triangulari-subulatis erectis acutis; corolla extus glabra vel hinc inde pilosa 7 mm. longa, tubo cylindraceo, lobis angustis acutiusculis tubo multo longioribus.—Guatemala: In virgin forest, Finca Los Alpes, Dept. Alta Verapaz, alt. 1,200 meters, March 21, 1939, *C. L. Wilson* 344 (type in Herb. Field Mus.).

Malanea Duckei Standl., sp. nov.—Frutex scandens, ramis gracilibus teretibus atque densissime pilis longis adscendentibus rigidulis ferrugineis vel pallidis pilosis, internodiis brevibus vel elongatis; stipulae persistentes late ovatae 7–8 mm. longae dense pilosae; folia majuscula breviter petiolata subcoriacea in sicco fusco-brunnescentia, petiolo crasso 6–10 mm. longo piloso; lamina elliptica vel late elliptica 8–14 cm. longa 5–10 cm. lata obtusa vel acutiuscula, basi subrotundata vel obtusa, supra lucida, costa nervisque ut quoque venis impressis, ad costam nervosque adpresso-

pilosa, aliter glabra vel glabrata, subtus brunnescens ubique pilis longiusculis laxe adpressis pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 9 angulo semirecto vel latiore adscendentibus arcuatis elevatis, prope marginem arcuato-junctis, venulis elevatis laxe reticulatis; flores parvi glomerulato-spicati, spicis axillaribus 4–5.5 cm. longis usque 3 cm. longe pedunculatis, glomerulis florum ca. 7 mm. diam. sessilibus oppositis, paribus remotis, rhachi dense patule pilosa, floribus arcte sessilibus, bracteis minutis; calyx cum hypanthio glaber campanulatus 1.5 mm. longus, margine undulato, ferrugineus; corolla albida 5 mm. longa extus densiuscule albo-strigosa, tubo cylindraceo superne vix dilatato, lobis 4 triangulari-oblongis patentibus obtusis intus albo-lanatis; stamina exserta, antheris oblongis 1 mm. longis.—Brazil: Manáos, circa Cachoeira do Mindú, silva non inundabili leviter paludosa, July 12, 1937, *A. Ducke* 34799 (type in Herb. Field Mus.); same locality, May 12, 1937, *Ducke* 494.

Manettia Skutchii Standl., sp. nov.—Herbacea volubilis omnino glabra, caule ca. 3 mm. crasso sulcato, internodiis foliis longioribus; stipulae latae ca. 2.5 mm. altae apice rotundatae; folia majuscula petiolata in sicco coriacea, petiolo crasso usque 14 mm. longo superne marginato; lamina late elliptica vel oblongo-elliptica 6–9 cm. longa 3–5 cm. lata subito longiacuminata, basi obtusa vel subrotundata atque abrupte contracta et decurrens, supra in sicco cinerea sublucida, costa nervisque plus minusve impressis, lamina subbullata, subtus fere concolor, costa crassa, nervis lateralibus utroque latere ca. 5 teneris prominentibus solemniter arcuatis angulo lato adscendentibus, venis paucis prominulis laxe reticulatis; inflorescentiae axillares laxe pauciflorae racemose cymoso-paniculatae foliatae usque 8 cm. longae ut videtur recurvae, pedicellis crassis 5–15 mm. longis, bracteis minutis; hypanthium obovoideum 3.5 mm. longum; calycis tubus latus 2 mm. longus, lobis 4 ca. 3 mm. longis late ovalibus vel subrotundatis incrassatis et carnosis, apice late rotundatis vel subtruncatis, patentibus; corolla pallido-rosea in sicco subcoriacea, tubo crasso 13–15 mm. longo sursum solemniter dilatato et fauce 6 mm. lato, basi 4 mm. lato, in fauce villoso, lobis ovato-oblongis patentibus vel subrecurvis ca. 8 mm. longis apiculatis et acutiusculis, intus ad apicem villosis; antherae semiexsertae.—Ecuador: Vicinity of Puyo, Prov. Napo Pastaza, eastern foothills of the Andes, alt. 750–1,000 meters, September, 1939, *Alexander F. Skutch* 4525 (type in Herb. Field Mus.).

A related species is *Manettia divaricata* Wernham, of Peru and Bolivia, which differs in having much thinner leaves and conspicu-

ously narrower calyx lobes. In *M. Skutchii* the calyx lobes are united below to form a distinct tube, as in *M. divaricata.*

Palicourea Cardenasii Standl., sp. nov.—Frutex 2-metralis, ramis crassiusculis dense minute puberulis subteretibus, internodiis 2–3.5 cm. longis; stipulae persistentes basi in vaginam brevissimam connatae, lobis erectis fere foliaceis semiovatis approximatis 5–7 mm. longis acutis minutissime puberulis vel fere glabris; folia inter minora petiolata subcoriacea, petiolo gracili 7–12 mm. longo minutissime puberulo; lamina elliptico-lanceolata vel oblongo-lanceolata 7–9 cm. longa 2.5–3.5 cm. lata longe angusteque interdum falcate acuminata, basi cuneato-angustata, supra in sicco nigrescens ubique scaberulo-puberula, costa nervisque prominentibus, subtus fere concolor ad nervos costamque breviter pilosula vel adpresso-pilosula, inter nervos glabrata, costa gracili prominente, nervis lateralibus utroque latere ca. 10 obliquis angulo ca. semirecto adscendentibus leviter arcuatis gracilibus prominentibus, venulis vix prominulis laxe reticulatis; inflorescentia terminalis erecta parva thyrsoideo-paniculata 5–8 cm. longa 3–4 cm. lata sat dense multiflora ca. 2 cm. longe pedunculata, pedunculo ramisque dense sordido-puberulis, ramis infimis valde adscendentibus brevibus, floribus sessilibus aggregatis; hypanthium crassum vix ultra 0.6 mm. altum, calyce campanulari ca. 0.8 mm. alto subtruncato vel late breviter sinuato-dentato; corolla lutea anguste tubulosa ca. 7 mm. longa extus sparse minute puberula, in alabastro apice obscure lobulata, lobis oblongis patentibus vel subreflexis dimidium tubi fere aequantibus intus glabris obtusis; antherae lineares subexsertae.—Bolivia: Chimoré, Cochabamba, at edge of forest, alt. 1,000 meters, November 2, 1937, *Martín Cárdenas* 2072 (type in U. S. Nat. Herb.; fragment in Herb. Field Mus.).

A species with no outstanding characters, but quite unlike any one known previously from Bolivia.

Palicourea Danielis Standl., sp. nov.—Frutex 3–4-metralis, ramis sat crassis teretibus, internodiis 2.5–4.5 cm. longis fere omnino glabris; stipulae crassae in vaginam subtruncatam vix ultra 2 mm. longam puberulam coalitae, lobis utroque latere 2 usque 3.5 mm. longis erectis rigidis triangulari-subulatis attenuatis persistentibus; folia inter minora breviter petiolata crasse coriacea, petiolo crasso 3–4 mm. longo puberulo vel glabrato; lamina ovata vel lanceolato-ovata 5–7.5 cm. longa 2–3 cm. lata subabrupte longiacuminata, basi obtusa, supra in sicco lucida glabra, nervis venisque profunde impressis, subtus ubique dense minute hirtella vel fere tomentulosa,

costa crassa solemniter elevata, nervis lateralibus utroque latere ca. 12 insigniter elevatis subarcuatis approximatis, venulis crassis elevatis arcte reticulatis sed vix conspicuis, marginibus valde lateque revolutis; inflorescentia terminalis recta thyrsiformis in statu fructifero ca. 5 cm. longa atque 4 cm. lata, pedunculo 3.5 cm. longo dense sordido-pilosulo, ramis infimis radiatim divergentibus brevibus dense sordido-pilosulis, floribus sessilibus vel subsessilibus aggregatis ut dicitur luteis; hypanthium dense hispidulum, lobis calycis brevibus acutiusculis; corolla perfecta non visa, 5 mm. longa vel ultra dense hispidula; fructus ellipsoideus 5 mm. longus sparse hispidulus, pyrenis solemniter costatis.—Colombia: San Pedro, Dept. Antioquía, December, 1937, *Brother Daniel & Brother Tomás* 1554 (type in U. S. Nat. Herb.; fragment in Herb. Field Mus.).

The material, unfortunately, is not well preserved, but evidently it represents an unusually well marked species, as species of this genus are limited. The most conspicuous feature is found in the very thick, coriaceous leaves, with the lateral nerves salient and riblike on the lower surface, and strongly immersed on the upper surface.

Posoqueria brachyantha Standl., sp. nov.—Arbor parva omnino glabra, ramis sat gracilibus teretibus in sicco fuscis, internodiis bene elongatis; stipulae persistentes coriaceae triangulares obtusae adpressae 7–10 mm. longae; folia modica breviter petiolata coriacea in sicco fusco-brunnescentia, petiolo crasso 8–10 mm. longo; lamina elliptica usque late elliptica vel rotundo-elliptica 7.5–11.5 cm. longa 5–8 cm. lata obtusa vel acuta, interdum subrotundata, basi obtusa vel rotundata, supra lucida, subtus paullo pallidior, costa crassa prominente, nervis lateralibus utroque latere ca. 5 angulo lato adscendentibus teneris prominentibus subarcuatis, venis obsoletis; inflorescentia cymoso-corymbosa terminalis sublaxe multiflora breviter pedunculata, pedicellis crassis usque 1 cm. longis; hypanthium turbinatum 5 mm. longum superne ca. 4 mm. latum basi acutum; calyx late campanulatus 2.5–3 mm. altus ad tertiam partem lobatus, lobis late rotundatis ciliatis; corolla alba, tubo gracili 4–6 cm. longo 2–3 mm. lato, lobis ovato-oblongis 8–10 mm. longis apice rotundatis ciliolatis; antherae lineares lobos corollae aequantes.—Brazil: Cucuhy, Rio Negro superior, in rupibus ad basin montis granitici secus rivulum, September 9, 1935, *A. Ducke* 34992 (type in Herb. Field Mus.).

From all its close relatives the species is distinguished by its unusually short corollas.

Remijia amphithrix Standl., sp. nov.—Arbuscula 3–6-metralis, ramulis crassis dense breviter pilosulo-tomentosis; stipulae ovali-ovatae fere 2.5 cm. longae 11 mm. latae obtusae extus densissime adpresso-pilosae; folia magna breviter petiolata subcoriacea, petiolo crasso 2–3 cm. longo densissime breviter patenti-piloso; lamina late elliptica ca. 29 cm. longa et 15 cm. lata obtusa et breviter cuspidata, basi subrotundata et abrupte breviter contracta, supra in sicco brunnescens sparsiuscule pilis brevibus patulis vel subadpressis fulvis conspersa et sparse pilis longis patentibus hirsuta, costa venisque non elevatis, subtus pallide fulva, ad venas costamque dense strigosa, aliter pilis brevibus subpatulis densissime pilosa, costa crassa elevata, nervis lateralibus utroque latere ca. 16 teneris prominentibus, inferioribus angulo fere recto abeuntibus, superioribus angulo angustiore usque semirecto adscendentibus arcuatis marginem attingentibus, venis tomento occultis; inflorescentia spiciformis interrupta ca. 17 cm. longe pedunculata, inferne aliquanto foliaceo-bracteata, floribus in cymulas capituliformes densissime multifloras sessiles vel infimas usque 2 cm. longe pedunculatas dispositis sessilibus; cymulae oppositae, paribus infimis usque 8 cm. distantibus; hypanthium campanulatum basi obtusum 2.5 mm. longum dense ochraceo-tomentosum, calyce vix ultra 2 mm. longo adpresso-pilosulo inaequaliter dentato, dentibus late ovatis acutiusculis; corolla pentamera extus dense adpresso-pilosa, tubo 10–12 mm. longo sursum vix dilatato fauce 2–2.5 mm. lato, lobis usque 8 mm. longis patentibus lanceolato-linearibus intus glabris vel sparse minutissime puberulis apicem subobtusum versus sensim attenuatis; stamina inclusa.—Colombia: Comisaría El Vichada, edge of forested area about 70 km. southeast of Orocué, alt. 150 meters, April 25, 1939, *Oscar Haught* 2789 (type in Herb. Field Mus.).

From all other Colombian species of the genus this is conspicuously different in the large and wide leaves that are broad and rounded at the base. The collector states that the white flowers have a peculiar odor that is not very agreeable.

Remijia asperula Standl., sp. nov.—Arbuscula, ramis crassis subteretibus vel obtuse tetragonis dense hirsuto-pilosis vel glabratis, internodiis abbreviatis; stipulae magnae oblongo-ovatae 4 cm. longae et 2 cm. latae vel majores obtusae vel breviter acuminatae intus glabrae extus densissime pilis longis subadpressis hispido-pilosae; folia magna opposita breviter petiolata subcoriacea, petiolo crasso 1–2 cm. longo vel paullo ultra dense hirsuto; lamina oblanceolato-oblonga usque oblongo-obovata 22–30 cm. longa 7.5–14 cm.

lata acuminata vel subobtusa et breviter cuspidata, basi acuta vel contracta et anguste decurrens, basin versus plus minusve angustata, supra in sicco fusca sublucida hirsuta et scabro-pilosula, tactu asperula, costa nervisque non elevatis, subtus pallide brunnescens ubique dense pilis longis submollibus patentibus fulvis hirsuta, costa gracili elevata, nervis lateralibus utroque latere ca. 18 teneris prominentibus angulo latiusculo divergentibus fere rectis marginem attingentibus, venis inconspicuis laxe reticulatis; flores majusculi dense cymoso-aggregati, cymulis dense multifloris saepe capituliformibus, post anthesin laxioribus, bracteatis paniculatis, paniculis axillaribus usque 17 cm. longe pedunculatis pauciramosis usque 25 cm. longis, ramis basalibus usque 4.5 cm. longis sed vulgo brevioribus dense brunneo-pilosis; bracteae ex parte magnae et foliosae, plerumque ellipticae vel ovatae et 10–12 mm. longae dense strigoso-sericeae; pedicelli nulli vel usque 4 mm. longi crassiusculi; hypanthium obovoideum 3 mm. longum basi subobtusum densissime longipilosum; calyx 3–4 mm. longus extus dense adpresso-pilosus ad medium dentatus, dentibus triangularibus acutis erectis; corolla alba in alabastro fere 15 mm. longa sursum angustata extus densissime pilis longis adscendentibus brunnescentibus pilosa; capsula anguste oblonga vel lanceolato-oblonga 2–3 cm. longa ca. 7 mm. lata sursum angustata, basi acutiuscula, densissime pilis longis et brevibus intermixtis brunneis vel ferrugineis piloso-tomentosa; semina numerosissima, parte seminifera ca. 2 mm. longa utrinque ala albida tenui ca. 2 mm. longa aucta.—Brazil: Manáos, civ. Amazonas, silva secundaria non inundabili loco arenoso humido prope cataractam altam fluminis Tarumá, May 13, 1936, *A. Ducke* 22854 (type in Herb. Field Mus.).

The species bears some superficial resemblance to *R. Ulei* Krause, apparently a rather common species of the Upper Amazon, but that has only rather sparse and very inconspicuous pubescence, and its leaves are relatively much longer and narrower. The capsules of the two species are similar.

Remijia Duckei Standl., sp. nov.—Arbuscula, ramis crassis subteretibus dense longipilosis, internodiis abbreviatis; stipulae tenues ferrugineae oblongo-lanceolatae vel ovato-oblongae 5–10 cm. longae basi usque 3 cm. latae longiattenuatae extus longipilosae diutius persistentes; folia magna opposita petiolata subcoriacea, petiolo crasso 2–3 cm. longo piloso-tomentoso; lamina oblonga, anguste lanceolato-oblonga vel late elliptico-oblonga 15–55 cm. longa 5–20 cm. lata, acuta vel breviter acuminata, basi acutiuscula

usque rotundata, supra in sicco fusco-brunnescens, primo praesertim ad costam nervosque laxe pilosa, cito glabrata, sublucida, costa nervisque non elevatis, subtus pallide brunnescens vel brunneo-ochracea in areolis intra nervulos minutissime fere microscopice pallido-tomentella, aliter sat dense laxeque pilosa vel ad nervos adpresso-pilosa, serius glabrescens, costa gracili elevata, nervis lateralibus utroque latere ca. 21 teneris elevatis angulo latiusculo adscendentibus fere rectis juxta marginem abrupte sursum curvatis et in marginem desinentibus, venulis prominulis arctissime reticulatis; flores majusculi in cymulas parvas dense paucifloras bracteatas dispositi, cymulis ad apices ramorum cymosis paniculam usque 25 cm. longe pedunculatam 7–25 cm. longam racemiformem vel late pyramidalem efformantibus, ramis laxe subsparse piloso-tomentosis, infimis obliquis usque 6 cm. longis; bracteae lineari-filiformes usque 2 cm. longae; flores sessiles vel brevissime pedicellati; hypanthium obovoideum 3 mm. longum dense pilis longis subadpressis pilosum, calyce 4–5 mm. longo campanulato breviter vel longius dentato, dentibus triangularibus usque fere subulatis; corolla alba in alabastro 2.8 cm. longa sursum attenuata extus densissime pilis longis pallidis adpressis sericea, lobis lanceolato-linearibus ca. 15 mm. longis longiattenuatis; capsula oblongo-clavata 2.5–3 cm. longa apice obtusa, basi angustata, valvulis ca. 8 mm. latis.—Brazil: Santa Izabel, Rio Negro, civ. Amazonas, ad ripas Igarapé Dará, September 9, 1935, *A. Ducke* 35058 (type in Herb. Field Mus.).

A relative, apparently, of *R. firmula* Wedd., also of the upper Amazon and the Rio Negro, which has capsules only 1 cm. long, according to description, and much less abundant pubescence. The type material of *R. Duckei* consists of three sheets of specimens. One of these bears a leaf of considerable morphological interest, since the upper half of the blade is very coarsely and regularly dentate. This is the closest approach to a truly dentate leaf that I have ever seen among American Rubiaceae, and is scarcely suggestive even of the regularly pinnatifid leaves found in some species of *Pentagonia*.

Stachyarrhena acuminata Standl., sp. nov.—Arbor parva glabra, ramulis cinnamomeis, cortice exfoliante, internodiis 6–15 mm. tantum longis teretibus; folia magna petiolata coriacea, petiolo crassiusculo 10–15 mm. longo; lamina anguste oblongo-lanceolata 18–28 cm. longa 5–7 cm. lata longiacuminata, basin versus sensim angustata, basi ipsa acutissima, supra lucida, costa nervisque prominentibus, subtus brunnescens minute papillosa, costa gracili elevata,

nervis lateralibus utroque latere ca. 15 angulo lato interdum fere recto abeuntibus teneris prominentibus arcuatis prope marginem sursum curvatis, venis obscuris; inflorescentia terminalis erecta 2–2.5 cm. longa ca. 3 cm. lata anguste paniculata 1–1.5 cm. longe crasse pedunculata, floribus in parte superiore spicatis, inferioribus in cymulas parvas paucifloras dispositis, pedicellis crassissimis vix ad 3 mm. longis; hypanthium brevissimum, calyce late campanulato 2.5 mm. alto 3 mm. lato lucido truncato coriaceo; corolla coriacea alba, tubo lato 4 mm. longo, lobis late ovatis obtusis suberectis ca. 3.5 mm. longis intus tomentosis.—Brazil: Borba, Rio Madeira, civ. Amazonas, silva non inundabili, November 8, 1935, *A. Ducke* 35053 (type in Herb. Field Mus.).

Doubtless related to *S. spicata* Hook. f. of the Amazon Valley, which has relatively shorter and much broader leaves, and normally a much more elongate inflorescence. The somewhat similar *S. longifolia* (Spruce) Hook. f. has obtuse leaves and a simply spicate inflorescence. The type of *S. longifolia* is well matched by the following collection: Rio Negro superior, civ. Amazonas, ad ripas sabulosas infra Marituba, a shrub with white flowers, March, 1936, *Ducke* 35051.

Stachyarrhena Duckei Standl., sp. nov.—Arbor parva omnino glabra, ramulis gracilibus subteretibus in sicco fusco-ferrugineis, internodiis 1.5–4.5 cm. longis; vagina stipularis truncata annuliformis vix ultra 1 mm. alta; folia majuscula petiolata subcoriacea, petiolo crassiusculo 1.5–2 cm. longo; lamina lanceolato-oblonga 15–19 cm. longa 6–8 cm. lata sensim longiacuminata, basi acuta, supra in sicco fusco-brunnescens sublucida, costa prominente, nervis manifestis sed vix elevatis, subtus fere concolor, costa prominente, nervis lateralibus utroque latere ca. 12 angulo latiusculo abeuntibus tenerrimis prominentibus subarcuatis prope marginem arcuato-conjunctis, venulis vix prominulis laxe reticulatis; inflorescentia terminalis erecta 2.5 cm. longe pedunculata simpliciter spicata 5.5 cm. longa 1 cm. lata sat dense multiflora, floribus arcte sessilibus; calyx latissime campanulatus 3 mm. latus vix 2 mm. altus truncatus lucidus; corolla alba in alabastro 5.5 mm. longa obtusissima.—Brazil: Santa Izabel, Rio Negro, civ. Amazonas, ad ripas inundabiles, December 9, 1936, *A. Ducke* 35052 (type in Herb. Field Mus.).

Although similar to *S. acuminata*, this differs in having a strictly simple inflorescence, and its leaves also are relatively broader, besides being widest near the base rather than at the middle. The leaves are longer and much more acuminate than those of *S. spicata*.

Stachyarrhena reflexa Standl., sp. nov.—Frutex 4-metralis omnino glaber, ramis crassiusculis ochraceis vel fulvo-cinereis aliquanto nodosis, internodiis plerumque abbreviatis; vagina stipularis ca. 4 mm. longa coriacea breviter lobata, lobis apice rotundatis; folia petiolata coriacea rigida, petiolo crasso 1–1.5 cm. longo; lamina anguste oblonga 6–14 cm. longa 2.5–3.8 cm. lata obtusa, basi angustato-acuta, supra in sicco fusca lucida, costa nervisque prominulis, subtus brunnescens sublucida, costa gracili elevata, nervis lateralibus utroque latere ca. 13 tenerrimis vix prominulis angulo lato abeuntibus, venis fere obsoletis; inflorescentia simpliciter spicata ca. 3 cm. longa et 5 cm. longe pedunculata, abrupte reflexa, floribus in verticillis densis multifloris remotis aggregatis arcte sessilibus; calyx late campanulatus truncatus lucidus ca. 5 mm. latus et 3 mm. altus; corolla in alabastro 6–7 mm. longa apice obtusa.—Brazil: Capoeira, Fazenda São Bento-Merces de Diamantina, Municipio Diamantina, Minas Geraes, November 24, 1937, *H. Mello Barreto* 10012 (Herb. Jard. Bot. Bello Horizonte 22237; type in Herb. Field Mus.).

Because of its reflexed and pendent inflorescence, this evidently is related to *S. penduliflora* Schum., of Pará. The plant of that rather remote region, however, has leaves twice as broad, and mostly very obtuse or rounded at the base.

VALERIANACEAE

Valeriana cacalioides Standl., sp. nov.—Herba elata simplex ca. 90 cm. alta, caule 7–8 mm. crasso aliquanto fistuloso in sicco brunnescente et marmorato-maculato, internodiis usque 18 cm. longis glabris vel apicem caulis versus sparse breviter hirsutulis; folia ca. 4-juga longipetiolata membranacea in sicco fusca, petiolo 1.5–6 cm. longo vel in foliis supremis fere nullo sparse breviter pilosulo; lamina late rotundato-ovata vel fere hastato-reniformis 5.5–7.5 cm. longa 5–8.5 cm. lata acuta, basi profunde aperte cordata, prope basin hastato-angulata, aliter grosse sinuato-dentata vel sublobata, sparse praesertim prope basin breviter pilosa vel fere glabra, basi palmatim ca. 7-nervia; inflorescentia terminalis longipedunculata e cymis 2 capituliformibus dense multifloris ca. 2 cm. latis 2 cm. longe pedunculatis composita, ramis dense pilosis, bracteis foliaceis linearibus usque 5–6 mm. longis; corolla glabra fere 5 mm. longa, lobis subpatentibus late oblongo-ovatis obtusissimis tubo duplo vel triplo brevioribus; stamina longiexserta.—Mexico: Mount Ovando, Chiapas, April 12, 1937, *E. Matuda* 1812 (type in Herb. Field Mus.).

The large, broad leaves are a distinctive character of the plant, reminding one somewhat by their form of those of *Ipomoea Batatas* or of some other members of the Convolvulaceae.

COMPOSITAE

Actinea ursina Standl., sp. nov.—Herba perennis caulescens pauciramosa ca. 30 cm. alta erecta, caulibus pluribus gracilibus capitulis ca. 3 terminatis sat dense et laxissime albido-lanatis, internodiis foliis longioribus; folia integra, basalia ca. 6 cm. longa, 6–7 mm. lata lineari-oblanceolata apice anguste rotundata vel obtusa, basin versus longe sensimque attenuata et in petiolum marginatum decurrentia, utrinque pilis laxis longis lanata; folia caulina linearia sessilia vel subsessilia 2.5–6 cm. longa 2–3 mm. lata laxe lanata; pedunculi graciles usque 17 cm. longi laxe denseque lanati; capitula majuscula, disco 1.5 cm. lato fere 1 cm. alto, involucro dense pilis longis albis lanato, phyllariis obtusis; radii lutei ca. 1 cm. longi et 3 mm. lati, apice breviter tridentati, extus glanduloso-pilosuli.—Mexico: State of Nuevo León, scattered on drier, more open slopes, Las Canoas, on Cerro Potosí, Municipio de Galeana, July 17, 1935, *C. H. Mueller* 2189 (type in Herb. Field Mus.).

As this group of plants is treated by Rydberg (N. Amer. Fl. 34: 101. 1915), under the generic name *Tetraneuris*, this seems to be related to *Tetraneuris formosa* Greene and *T. Ivesiana* Greene, of the southwestern United States, but it is distinct from those and their relatives by its abnormally long and lax, copious pubescence.

Erigeron chiriquensis Standl., sp. nov.—Herba erecta ramosa elata 20–50 cm. alta, caule superne pauciramoso crassiusculo subtereti sparsissime pilis brevibus albidis strigoso vel glabrato, internodiis foliis brevioribus; folia numerosa sessilia 2–3 cm. longa 4–8 mm. lata acuta, inferiora pinnatilobata, segmentis lateralibus paucis oblongis acutis, superiora grosse pauciserrata, suprema integra vel breviter serrata et saepe linearia, basin versus integra et sensim angustata, sparse utrinque albido-strigosa, crasse membranacea; capitula terminalia solitaria vel aggregata breviter pedunculata, disco ca. 12 mm. lato et 6 mm. alto, pedunculis apice dense strigosis; phyllaria ca. 6 mm. longa subaequalia linearia longiattenuata hirsutula pallido-marginata; radii albi vel pallide caerulescentes numerosi anguste lineares 3–4 mm. longi; corolla filiformis glabra usque 7 mm. longa; achaenia paullo ultra 1 mm. longa sparse hispidula, pappi setis paucis 3.5 mm. longis albis minutissime scaberulis.—Panama: Potrero Mulato, Volcán de Chiriquí, Boquete

District, Prov. Chiriquí, alt. 3,140 meters, July 18, 1938, *Mrs. M. E. Davidson* 872 (type in Herb. Field Mus.).

Erigeron potosinus Standl., sp. nov.—Herba perennis erecta elata 30 cm. alta vel paullo ultra, caulibus subsimplicibus capitulis 2 longipedunculatis terminatis minute sparse puberulis et sparse hispidulo-pilosis paucifoliatis, internodiis saepe foliis longioribus; folia basalia 6–7 cm. longa petiolata, petiolo marginato, lamina oblongo-oblanceolata usque 4.5 cm. longa et 1.5 cm. lata integra apice rotundata fere glabra sed saltem subtus sparse puberula; folia caulina ca. 8 subaequalia, superiora paullo minora, oblonga vel lanceolato-oblonga acuta vel obtusa, basi sessilia et subamplexicaulia, integra, fere glabra ciliata; pedunculi graciles 9–15 cm. longi viscido-puberuli et patule pilosi; capitula majuscula, disco ca. 1.5 cm. lato et 7–8 mm. alto, phyllariis linearibus subaequalibus, exterioribus viridibus dense minuteque glanduloso-puberulis longiattenuatis erectis et subadpressis numerosissimis; radii albi purpureo tincti anguste lineares usque 1.5 cm. longi; achaenia juvenilia ochracea 1.5 mm. longa sparse puberula, pappi setis paucis duplo longioribus albis mollibus.—Mexico: State of Nuevo León, abundant on forest floor, Las Canoas, on Cerro Potosí, Municipio de Galeana, July 16, 1935, *C. H. Mueller* 2174 (type in Herb. Field Mus.). Below timber line, near peak of Cerro Potosí, alt. 3,450 meters, July 20, 1938, *Richard A. Schneider* 945.

Regarding the second collection cited, Mr. Schneider has made the following notes: "Abundant on open mountain side; spreading by offshoots; rays white or pale pink. A pretty daisy of open, rather rocky woods, and of open mountain slopes. Usually only one head to a stem. Just coming into bloom July 20, while the other *Erigeron* of this altitude was in full bloom when first observed on July 1."

Helenium pinetorum Standl., sp. nov.—Herba perennis robusta usque 60 cm. alta, caule vulgo tricephalo simplici inferne 1 cm. crasso striato glabro vel sparsissime lanato, internodiis foliis multo brevioribus; folia caulina numerosa sessilia, inferiora et media anguste oblanceolata usque 14 cm. longa 1.7–2.5 cm. lata attenuato-acuta, basin versus sensim angustata glabra vel glabrata parallelinervia; folia superiora lanceolata vel anguste ovata 3.5–8 cm. longa 1.5–2.5 cm. lata longiacuminata, basi dilatata et obtusa vel rotundata, fere glabra vel primo sparse lanata, integra; pedunculi crassi 3.5–7 cm. longi dense lanati; capitula magna, disco ca. 2 cm. lato et 1.2 cm. alto, phyllariis numerosis lineari-lanceolatis viridibus

longiattenuatis herbaceis dense lanatis laxis; radii lineares 2.5 cm. longi intense lutei; pappi squamellae lineari-lanceolatae 3.5 mm. longae subulato-attenuatae.—Mexico: State of Nuevo León, Sierra Madre Oriental, ascent of Sierra Potosí by north hogback, about 20 miles northeast of Galeana, abundant in the upper pine forest, alt. 3,390 meters, July 26, 1934, *C. H. & M. T. Mueller* 1258 (type in Herb. Field Mus.). Peak of Cerro Potosí, abundant in upper pine woods, north side, in loose clumps of 4–10 plants, July 21, 1935, *C. H. Mueller* 2274.

The type collection was distributed as *Helenium integrifolium* (HBK.) Benth. & Hook., the only similar species, which was described from the State of Hidalgo, and grows in the mountains of Guatemala as well as on the high peaks of southern Mexico. In *H. integrifolium*, as indicated by ample material at hand for study and by the original illustration of Kunth, the plant is densely lanate throughout, and the upper cauline leaves are all narrow, almost linear, or else divided into narrow lobes. In *H. pinetorum* all the leaves are entire, and the upper ones are broad, especially at the base.

Senecio Austin-Smithii Standl., sp. nov.—Frutex epiphyticus 1.5 m. longus, ramis dense foliatis ochraceis subteretibus glabris, novellis in sicco fuscis, internodiis abbreviatis; folia inter minora petiolata in sicco subcoriacea et fusca, petiolo gracili 8–10 mm. longo; lamina anguste oblanceolato-oblonga 4–7.5 cm. longa 1.7–2.5 cm. lata apice obtusa vel anguste rotundata, basin versus cuneato-attenuata, integra glabra; inflorescentia terminalis cymoso-corymbosa 5 cm. longa et aequilata, pedicellis usque 4 mm. longis sparse araneoso-lanuginosis vel fere glabris; capitula numerosa condensata eradiata anguste campanulata; phyllaria ca. 7 et 5 mm. longa anguste oblonga obtusissima pallido-marginata glabra vel basi tantum obscure lanuginosa, bracteolis paucis brevibus; corollae 4–5 mm. longae glabrae; achaenia immatura glabra, pappi setis longis albis mollibus.—Costa Rica: Palmira, Prov. Alajuela, alt. 1,860 meters, February 9, 1938, *Austin Smith* H299 (type in Herb. Field Mus.).

"An epiphyte with woody stems 1.5 meters long, on forest tree in semi-shade; bark smooth and pale brown; leaves a little thickened, flexible, glabrous and shining; inflorescence green."

Solidago Muelleri Standl., sp. nov.—Herba perennis elata ca. 70 cm. alta ut videtur simplex, caule dense foliato gracillimo cinereo-puberulo, internodiis foliis multo brevioribus; folia lanceolato-linearia 4–9 cm. longa 3–9 mm. lata longe angusteque attenuata,

basin versus longe angusteque attenuata et plus minusve petiolata, remote minute adpresso-serrata, vel superiora interdum integra, 1-nervia vel obscure trinervia, supra in sicco griseo-viridia sparse puberula vel fere glabra, subtus praesertim ad costam gracilem prominentem minute pilosula; capitula numerosa parva secunda in racemos breves terminales et axillares 2–3 cm. longos disposita, inflorescentia tota anguste paniculata foliata 15 cm. longa basi 3.5 cm. lata, pedicellis tenuibus ad 3 mm. longis adpresso-pilosulis; capitula 3 mm. alta campanulata, phyllariis inaequalibus late linearibus obtusis adpressis stramineis apice ciliatis, dorso glabris; achaenia 1.3 mm. longa minute hispidula, pappi setis albis rigidulis ca. 2 mm. longis; radii pallide lutei fere lineares floribus disci vix longioribus.—Mexico: State of Nuevo León, common in moist crevices on river bank, Cañón Marisio Abajo, Rancho Las Adjuntas, Municipio de Villa Santiago, June 27, 1935, *C. H. Mueller* 2062 (type in Herb. Field Mus.).

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